

Priority
#3

Access DB# 135016

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 10-12-04
Art Unit: 1752 Phone Number 301-21333 Serial Number: 10/811,558
Mail Box and Bldg/Room Location: 9060 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic anti-reflective coating polymer, its preparation method &

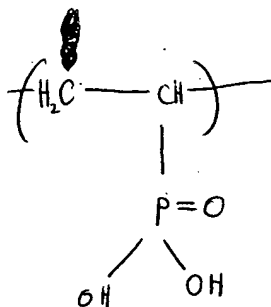
Inventors (please provide full names):

Lee, Geun-soo; Bok, Cheol-kyu; Moon, Seung-chan;

Earliest Priority Filing Date: 3-29-04 Shin, Ki-soo; Lee, Won-wook organic anti-reflective coating composition

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a polymer of the following formula.

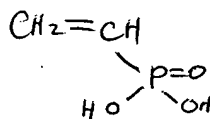


SCIENTIFIC REFERENCE BR
Sci. & Tech. Info. Cntr

OCT 13

Pat. & T.M. Office

(this polymer is made from the monomer)



STAFF USE ONLY

Searcher: ES
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: _____
Date Completed: 10-15-04
Searcher Prep & Review Time: _____
Clerical Prep Time: _____
Online Time: _____

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) _____
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN _____
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

=> file reg

FILE 'REGISTRY' ENTERED AT 16:10:12 ON 15 OCT 2004
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=> d his

FILE 'REGISTRY' ENTERED AT 15:55:56 ON 15 OCT 2004
E VINYLPHOSPHONIC ACID/CN

L1 1 S E3
L2 1 S E10
L3 302 S 1746-03-8/CRN

FILE 'HCA' ENTERED AT 16:02:24 ON 15 OCT 2004

L4 261 S L2
L5 493 S L3
L6 453656 S REFLECT? OR ANTIREFLECT?
E COATINGS/CV
L7 43469 S E2 OR E3
E COATING MATERIALS/CV
L8 251373 S E3
E COATING PROCESS/CV
L9 113776 S E3
L10 1 S L4 AND L6
L11 2 S L5 AND L6
L12 15 S L4 AND (L7 OR L8 OR L9)
L13 44 S L5 AND (L7 OR L8 OR L9)
L14 922315 S (MIXT# OR MIXTURE? OR BLEND? OR ADMIX? OR COMMIX? OR IM
L15 1 S L12 AND L14
L16 8 S L13 AND L14
L17 10 S L10 OR L11 OR L15 OR L16
L18 14 S L12 NOT L17
L19 22 S L13 NOT (L17 OR L18)
L20 1257 S GLARE# OR GLARING# OR ANTIGLAR?
L21 0 S (L4 OR L5) AND L20

=> file hca

FILE 'HCA' ENTERED AT 16:10:23 ON 15 OCT 2004
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=> d l17 1-10 cbib abs hitstr hitind

L17 ANSWER 1 OF 10 HCA COPYRIGHT 2004 ACS on STN

136:313541 Method for coating of metallic surfaces with an aqueous

composition, the aqueous **composition** and use of the coated substrates. Bittner, Klaus; Domes, Heribert; Wietzoreck, Hardy; Jung, Christian (Chemetall Gmbh, Germany; Shimakura, Toshiaki). PCT Int. Appl. WO 2002031222 A2 20020418, 41 pp.

DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (German). CODEN: PIXXD2. APPLICATION: WO 2001-EP11506 20011005. PRIORITY: DE

2000-10050532 20001011.

AB The invention relates to a method for coating of a metallic surface with a compn. The compn. contains the following in addh. to water: (a) .gtoreq.1 org. film contg. .gtoreq.1 polymer which is water-sol. or is dispersed in water; (b) a quantity of cations and/or hexafluoro complexes of cations selected from a group comprising Ti, Zr, Hf, Si, Al, and B; and (c) .gtoreq.1 inorg. compd. in a particle form with an av. particle diam. of 0.005-0.2 .mu.m, measured with a scanning electron microscope. The clean metallic surface is brought into contact with the aq. compn., and a film contg. particles is formed on the metallic surface. After drying, the dry film has a layer thickness of 0.01-10 .mu.m. The invention also relates to a corresponding aq. compn.

IT 27936-88-5

(in aq. compn. for coating of metallic surfaces)

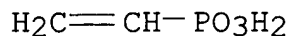
RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

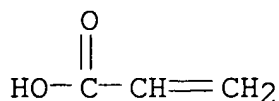
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM C23C022-00

CC 56-6 (Nonferrous Metals and Alloys)

IT **Coating process**

(aq. compn. for coating of metallic surfaces)

IT 57-55-6, Propylene glycol, uses 74-85-1D, Ethylene, polymer with acrylate 77-92-9, Citric acid, uses 79-10-7D, Acrylic acid, esters, polymer with ethylene 100-37-8, Diethylethanolamine 102-71-6, Triethanolamine, uses 108-01-0, Dimethylethanolamine 110-91-8, Morpholine, uses 598-62-9, Manganese carbonate 1306-38-3, Cerium oxide (CeO₂), uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1314-36-9, Yttrium oxide, uses 1344-28-1, Alumina, uses 2530-83-8, 3-Glycidyloxypropyltrimethoxysilane 7291-09-0, Vinylsilane 7727-43-7, Barium sulfate 9002-86-2, PVC 9002-89-5, Polyvinyl alcohol 9002-98-6 9003-01-4, Polyacrylic acid 9003-07-0, Polypropylene 9003-39-8, Polyvinyl pyrrolidone 9003-53-6, Polystyrene 12021-95-3, Hydrogen zirconium fluoride (H₂ZrF₆) 13463-67-7, Titania, uses 13598-78-2, Aminosilane 13822-56-5, Aminopropyltrimethoxy silane 17439-11-1, Hexafluorotitanic acid (H₂TiF₆) 21645-51-2, Aluminum hydroxide, uses 22829-17-0, Zirconium ammonium carbonate 25265-75-2, Butanediol 26914-14-7, Diethylthiourea **27936-88-5** 59269-51-1, Polyvinyl phenol (in aq. compn. for coating of metallic surfaces)

L17 ANSWER 2 OF 10 HCA COPYRIGHT 2004 ACS on STN

136:224265 Pretreated sheet product for lithographic plates. Bennett, David; Blake, Sallie L.; Bombalski, Robert E.; Guthrie, Joseph D.; Serafin, Daniel L. (Alcoa Inc., USA). PCT Int. Appl. WO 2002019032 A2 20020307, 20 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DE, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US41931 20010829. PRIORITY: US 2000-PV228982 20000830; US 2001-PV286145 20010424.

AB The present invention relates to a lithog. sheet product having a substrate with a roll textured surface covered by a pretreatment layer. The pretreatment layer enhances adhesion of a printing

compn. to the sheet product and is composed of a polymer selected from the group consisting of polymers of acrylic acid, polymers of methacrylic acid, an organophosphorous polymer and copolymers of an organophosphorous compd. and acrylic acid or methacrylic acid. Dopant particles of alumina, silica, titanium dioxide or a black dye or pigment may be added to the pretreatment layer to reduce the gloss and **reflectance** of the pretreatment layer in a printing process. Etching of the substrate also reduces gloss and **reflectance**.

IT 27936-88-5, Acrylic acid-vinyl phosphonic acid copolymer
(pretreated sheet product with dopant particles for lithog.
plates)
RN 27936-88-5 HCA
CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA
INDEX NAME)

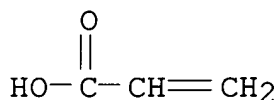
CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



CM 2

CRN 79-10-7
CMF C3 H4 O2



IC ICM G03F001-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38
IT 27936-88-5, Acrylic acid-vinyl phosphonic acid copolymer
(pretreated sheet product with dopant particles for lithog.
plates)

L17 ANSWER 3 OF 10 HCA COPYRIGHT 2004 ACS on STN
131:79922 Anodically formed intrinsically conductive polymer-aluminum
oxide **composite** as a coating on aluminum. Kinlen, Patrick
J.; Lawless, Lawrence M.; Menon, Vinod P. (Zipperling Kessler & Co.
(GmbH & Co.), Germany). PCT Int. Appl. WO 9935308 A2 19990715, 49

pp. DESIGNATED STATES: W: CA, JP, KR; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1998-EP8401 19981223. PRIORITY: US 1998-2582 19980105.

AB A method for forming a coating on aluminum by contacting the aluminum with water, at least one multifunctional polymeric org. acid, a monomer of an intrinsically conductive polymer and polymg. the ICP monomer and forming aluminum oxide by imposing an elec. potential between the aluminum surface as the anode and a cathode. The intrinsically conductive polymer salt and aluminum oxide coating that is formed resists corrosion and is resistant to de-doping during immersion in hot water.

IT **27754-99-0**, Polyvinylphosphonic acid
(anodically formed intrinsically conductive polymer-aluminum oxide composite as coating on aluminum)

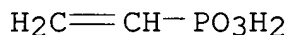
RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC ICM C25D011-04

ICS C25D013-00

CC 72-7 (Electrochemistry)

Section cross-reference(s): 56

IT **Coating materials**

(anodically formed intrinsically conductive polymer-aluminum oxide composite as coating on aluminum)

IT 9003-01-4, Polyacrylic acid 25067-58-7 25190-62-9,
Poly(p-Phenylene) 25233-34-5, Poly(thiophene) 27119-07-9,
Poly(2-acrylamido-2-methyl-1-propane)sulfonic acid
27754-99-0, Polyvinylphosphonic acid 30604-81-0,
Poly(pyrrole) 50851-57-5, Polystyrenesulfonic acid 51555-21-6,
Poly(Carbazole) 66280-99-7, Poly(thienylene vinylene)
91201-85-3, Poly(isothianaphthene) 96638-49-2, Poly(phenylene vinylene) 152776-25-5, Polystyrenephosphonic acid
(anodically formed intrinsically conductive polymer-aluminum oxide composite as coating on aluminum)

L17 ANSWER 4 OF 10 HCA COPYRIGHT 2004 ACS on STN

130:155080 Water-thinned coating **compositions** containing phosphonic acid reaction products. Bruylants, Paul Peter; Huybrechts, Josef; Kirshenbaum, Kenneth S.; Berge, Charles T. (E. I.

Du Pont de Nemours & Co., USA). PCT Int. Appl. WO 9906450 A1 19990211, 11 pp. DESIGNATED STATES: W: AU, BR, CA, IL, JP, KR, MX, NZ, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1998-US15761 19980729. PRIORITY: US 1997-54179 19970730.

AB Coating compn. comprises a nonionically and/or anionically stabilized film-forming polymer (such as anionically stabilized acrylic latex), a metallic pigment (such as aluminum) and a reaction product of a phosphonic acid deriv. $\text{RCH}_2\text{P}(\text{O})(\text{OH})_2$ or $\text{R}'\text{:CHP}(\text{O})(\text{OH})_2$ ($\text{R}, \text{R}' = \text{C1-25 aliph. and arom. hydrocarbyl, optionally contg. heteroatoms of .gtoreq.1 oxygen, phosphorus and silicon.; such as octylphosphonic acid}$), a hydroxy-contg. polymer (such as allyl alc.-styrene copolymer) and, optionally a compd. having a hydroxy group. The phosphonic acid reaction products inhibit the corrosion of metallic pigments in water-borne compns.

IT 220283-17-0P, Allyl alcohol-styrene copolymer, ester with vinylphosphonic acid (water-thinned coating compns. contg. phosphonic acid reaction products)

RN 220283-17-0 HCA

CN 2-Propen-1-ol, polymer with ethenylbenzene, ethenylphosphonate (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P

*= US 6,624,227 B1
Cite of Interest.*



CM 2

CRN 25119-62-4

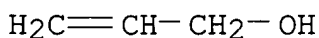
CMF (C8 H8 . C3 H6 O) x

CCI PMS

CM 3

CRN 107-18-6

CMF C3 H6 O



CM 4

CRN 100-42-5
CMF C8 H8

$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

- IC ICM C08F008-40
ICS C09D005-38; C09C001-64
- CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 37
- IT **Coating materials**
Coating materials
(anticorrosive, water-thinned; water-thinned coating compns. contg. phosphonic acid reaction products)
- IT 220283-14-7P, Allyl alcohol-styrene copolymer, ester with octylphosphonic acid 220283-15-8P, Allyl alcohol-styrene copolymer, ester with Cublen K 60 and p-tert-amylphenol
220283-17-0P, Allyl alcohol-styrene copolymer, ester with vinylphosphonic acid 220309-10-4P, Allyl alcohol-styrene copolymer, ester with propylphosphonic acid
(water-thinned coating compns. contg. phosphonic acid reaction products)
- L17 ANSWER 5 OF 10 HCA COPYRIGHT 2004 ACS on STN
128:49506 Antisoiling coating films with good adhesion and **compositions** therefor. Yoshizawa, Shin; Abo, Toshio; Nagata, Junichiro; Nishimura, Yoshiro; Ishimoda, Yoshikazu (Nippon Paint Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09296151 A2 19971118 Heisei, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-130959 19960426.
- AB Title films comprise F-contg. polyurethane-based continuous parts and Si-contg. irregular spots and are prep'd. from compns. comprising OH-contg. fluorovinyl polymers, polyalkylene oxide-contg. polyisocyanates, and hydrolyzable silyl group-contg. silanols. A compn. contg. Blemmer PE 350-chlorotrifluoroethylene-Et vinyl ether-4-hydroxybutyl vinyl ether-Na p-styrenesulfonate-vinyl cyclohexanoate copolymer and Coronate EH-MPG 081 reaction product, and Me silicate 51 showed good adhesion to steel panels and soil resistance over 6 mo.
- IT **199733-13-6DP**, Me ether **199733-17-0DP**, Me ether
(silicate spot-contg. fluoropolymer-polyurethane coatings with good adhesion and soil resistance)
- RN 199733-13-6 HCA
- CN Cyclohexanecarboxylic acid, ethenyl ester, polymer with Coronate EH, 4-(ethenyloxy)-1-butanol, (ethenyloxy)cyclohexane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene, .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) and potassium ethenylphosphonate,

graft (9CI) (CA INDEX NAME)

CM .1

CRN 86472-86-8

CMF Unspecified

CCI MAN

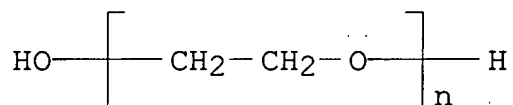
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CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

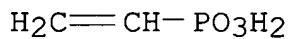
CCI PMS



CM 3

CRN 22923-78-0

CMF C2 H5 O3 P . x K

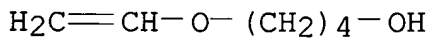


● x K

CM 4

CRN 17832-28-9

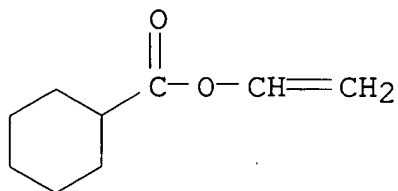
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CM 5

CRN 4840-76-0

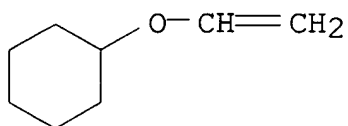
CMF C9 H14 O2



CM 6

CRN 2182-55-0

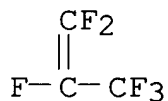
CMF C8 H14 O



CM 7

CRN 116-15-4

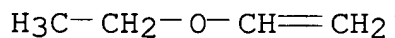
CMF C3 F6



CM 8

CRN 109-92-2

CMF C4 H8 O



RN 199733-17-0 HCA

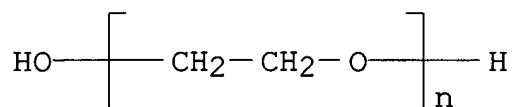
CN Cyclohexanecarboxylic acid, ethenyl ester, polymer with
 4-(ethenyloxy)-1-butanol, (ethenyloxy)cyclohexane, ethoxyethene,
 1,1,2,3,3,3-hexafluoro-1-propene, .alpha.-hydro-.omega.-
 hydroxypoly(oxy-1,2-ethanediyl), potassium ethenylphosphonate and
 1,3,5-tris(6-isocyanatohexyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione,
 graft (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)_n H2 O

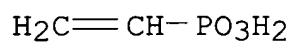
CCI PMS



CM 2

CRN 22923-78-0

CMF C2 H5 O3 P . x K

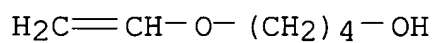


● x K

CM 3

CRN 17832-28-9

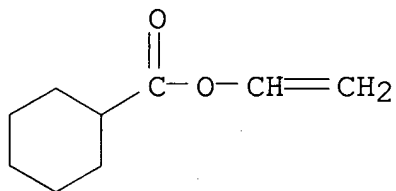
CMF C6 H12 O2



CM 4

CRN 4840-76-0

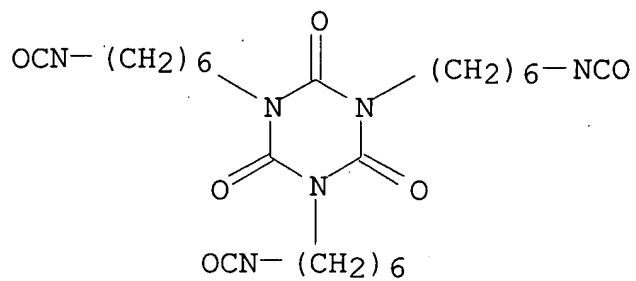
CMF C9 H14 O2



CM 5

CRN 3779-63-3

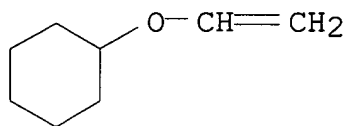
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CM 6

CRN 2182-55-0

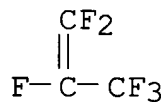
CMF C8 H14 O



CM 7

CRN 116-15-4

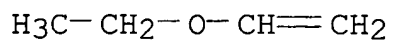
CMF C3 F6



CM 8

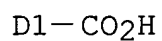
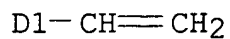
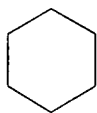
CRN 109-92-2

CMF C4 H8 O



IC ICM C09D175-04

ICS B05D007-24; C08G018-61; C08G018-62; C08G018-79
CC 42-10 (Coatings, Inks, and Related Products)
IT **Coating materials**
(silicate spot-contg. fluoropolymer-polyurethane coatings with
good adhesion and soil resistance)
IT 199733-11-4DP, Me ether **199733-13-6DP**, Me ether
199733-15-8DP, Me ether 199733-16-9DP, Me ether
199733-17-0DP, Me ether 199733-18-1DP, Me ether
199870-48-9DP, Me ether 199944-08-6DP, Me ether 199944-09-7DP,
Me ether 199944-10-0DP, Me ether
(silicate spot-contg. fluoropolymer-polyurethane coatings with
good adhesion and soil resistance)
L17 ANSWER 6 OF 10 HCA COPYRIGHT 2004 ACS on STM
124:319812 Soil- and weather-resistant fluoro vinyl polymer coating
compositions. Okada, Katsuhiko; Nishimura, Yoshiro
(Dainippon Ink & Chemicals, Japan; Nippon Paint Co Ltd). Jpn. Kokai
Tokkyo Koho JP 08041415 A2 19960213 Heisei, 14 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1994-176743 19940728.
AB Title compns. comprise salt group-contg. curable fluoro vinyl
polymers, their curing agents, org. solvents, and hydrolyzable Si
compds. and/or silanol-contg. compds. An org. solvent soln. contg.
cyclohexyl vinyl ether-Et vinyl ether-hexafluoropropylene-4-
hydroxybutyl vinyl ether-potassium vinylphosphonate-vinyl
cyclohexanecarboxylate copolymer, Burnock DN 950, and MS 51 gave
films showing water contact angle 55.degree., gloss retention 85%
after 3000 h under weatherometer, and good soil resistance (JIS Z
8901).
IT **176451-19-7P 176520-57-3P**
(org. silicate (or hydroxy-contg. siloxane)-contg. coatings with
hydrophilicity and soil/weather resistance)
RN 176451-19-7 HCA
CN Cyclohexanecarboxylic acid, ethenyl-, polymer with Burnock DN 950,
4-(ethenyloxy)-1-butanol, (ethenyloxy)cyclohexane, ethoxyethene,
1,1,2,3,3,3-hexafluoro-1-propene and potassium ethenylphosphonate
(9CI) (CA INDEX NAME)
CM 1
CRN 108996-06-1
CMF C9 H14 O2
CCI IDS



CM 2

CRN 61287-26-1

CMF Unspecified

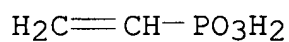
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 22923-78-0

CMF C2 H5 O3 P . x K

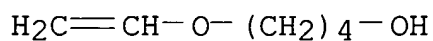


●x K

CM 4

CRN 17832-28-9

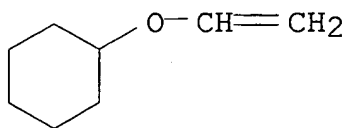
CMF C6 H12 O2



CM 5

CRN 2182-55-0

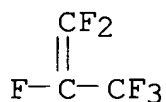
CMF C8 H14 O



CM 6

CRN 116-15-4

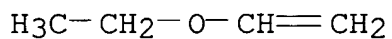
CMF C3 F6



CM 7

CRN 109-92-2

CMF C4 H8 O



RN 176520-57-3 HCA

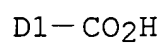
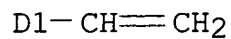
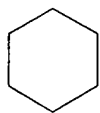
CN Cyclohexanecarboxylic acid, ethenyl-, polymer with Burnock D 550, 4-(ethenyloxy)-1-butanol, (ethenyloxy)cyclohexane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and potassium ethenylphosphonate (9CI) (CA INDEX NAME)

CM 1

CRN 108996-06-1

CMF C9 H14 O2

CCI IDS



CM 2

CRN 91261-21-1

CMF Unspecified

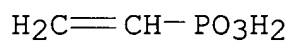
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 22923-78-0

CMF C2 H5 O3 P . x K

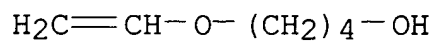


● x K

CM 4

CRN 17832-28-9

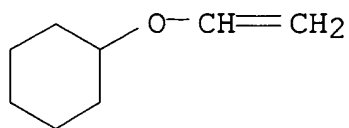
CMF C6 H12 O2



CM 5

CRN 2182-55-0

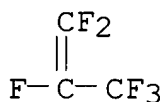
CMF C8 H14 O



CM 6

CRN 116-15-4

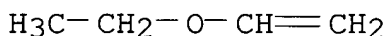
CMF C3 F6



CM 7

CRN 109-92-2

CMF C4 H8 O



IC ICM C09D127-12

ICS C08L027-12; C08L031-06; C09D131-06; C09D201-02

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(antisoiling, weather-resistant, hydrophilic; org. solvent solns. contg. salt group-contg. fluoropolymers and org. silicates (or hydroxy-contg. siloxanes))

IT 160004-41-1P **176451-19-7P** 176451-20-0P**176520-57-3P** 176520-58-4P

(org. silicate (or hydroxy-contg. siloxane)-contg. coatings with hydrophilicity and soil/weather resistance)

L17 ANSWER 7 OF 10 HCA COPYRIGHT 2004 ACS on STN

123:208937 Optionally crosslinkable coatings, **compositions** and methods of use. Mitra, Sumita B.; Shelburne, Charles E.; Rozzi, Sharon M.; Kedrowski, Brant L. (Minnesota Mining and Manufacturing Co., USA). PCT Int. Appl. WO 9515740 A1 19950615, 98 pp.

DESIGNATED STATES: W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR,

GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
(English). CODEN: PIXXD2. APPLICATION: WO 1994-US13848 19941202.
PRIORITY: US 1993-163028 19931206.

AB Coatings for hard tissue and surfaces of the oral environment are provided that reduce adhesion of bacteria and proteinaceous substances to these surfaces. Methods of reducing adhesion of these materials to such surfaces, and polymers for incorporation into such coatings are also provided. Example polymers are polydimethyl siloxanes with various acrylic monomers.

IT **167769-95-1P**

(crosslinkable polymer coatings for oral environment to decrease bacteria and protein adhesion)

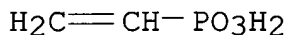
RN 167769-95-1 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with dimethylsilanediol and ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

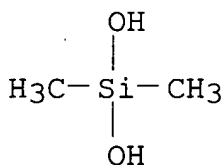
CMF C2 H5 O3 P



CM 2

CRN 1066-42-8

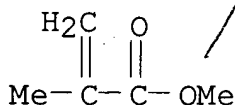
CMF C2 H8 O2 Si



CM 3

CRN 80-62-6

CMF C5 H8 O2



IC ICM A61K006-02
ICS A61K006-083; A61K006-093; A61K007-16; A23G003-30
CC 63-7 (Pharmaceuticals)
IT Adhesion
Bacteria

Coating materials

Dental materials and appliances

Dentifrices

(crosslinkable polymer coatings for oral environment to decrease bacteria and protein adhesion)

IT 122904-52-3P 161062-20-0P 167769-94-0P ~~167769-95-1P~~
167769-96-2P 167769-97-3P 167769-99-5P 167770-00-5P
167770-02-7P 168201-55-6P

(crosslinkable polymer coatings for oral environment to decrease bacteria and protein adhesion)

L17 ANSWER 8 OF 10 HCA COPYRIGHT 2004 ACS on STN

122:33657 Fluorine-containing vinyl copolymer **compositions** for coatings. Shirai, Nobuyoshi; Yoshizawa, Shin (Dainippon Ink & Chemicals, Japan; Nippon Paint Co Ltd). Jpn. Kokai Tokkyo Koho JP 06179790 A2 19940628 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-332037 19921211.

AB The compns. contain (A) curable F-contg. vinyl copolymers contg. salt-forming groups in the terminal position and/or on branches, (B) hardeners which are reactive with A, and (C) org. solvents. Thus, a 50% soln. of 495:5:100:200:100:100 hexafluoropropylene-potassium vinylphosphonate-hydroxybutyl vinyl ether-cyclohexyl vinyl ether-Et vinyl ether-vinyl cyclohexanecarboxylate copolymer 640, Tipaque CR 95 260, a 50:50 mixt. of xylene (I) and Bu acetate (II) 67, and Burnock DN 950 92 parts were blended, dild. with a 40:20:10:30 mixt. of toluene, I, Solvesso 100, and II, and sprayed 30-40 .mu.m thick onto an Al plate, dried at room temp. for 7 days, and baked at 170.degree. for 20 min to give a test piece with water contact angle 62.degree., staining (JIS Z 8901) 6, and gloss retention 85% after 3000 h in a weatherometer.

IT **160041-60-1P**
(fluorine-contg. vinyl polymer glossy coatings with weatherability and water resistance)

RN 160041-60-1 HCA
CN Cyclohexanecarboxylic acid, ethenyl ester, polymer with Burnock DN 950, 4-(ethenyloxy)-1-butanol, (ethenyloxy)cyclohexane, ethoxyethene, 1,1,2,3,3,3-hexafluoro-1-propene and potassium ethenylphosphonate (9CI) (CA INDEX NAME)

CM 1

CRN 61287-26-1

CMF Unspecified

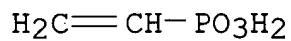
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 22923-78-0

CMF C2 H5 O3 P . x K

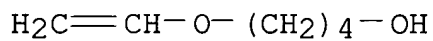


● x K

CM 3

CRN 17832-28-9

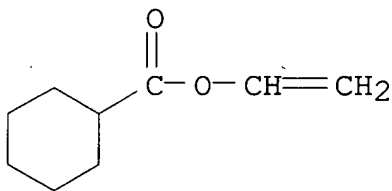
CMF C6 H12 O2



CM 4

CRN 4840-76-0

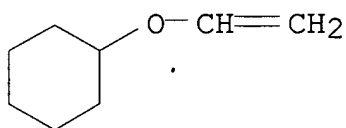
CMF C9 H14 O2



CM 5

CRN 2182-55-0

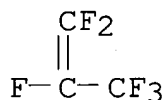
CMF C8 H14 O



CM 6

CRN 116-15-4

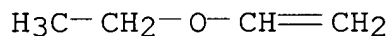
CMF C3 F6



CM 7

CRN 109-92-2

CMF C4 H8 O



IC ICM C08L027-12

ICS C08G018-62; C08L061-20

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(fluorine-contg. vinyl polymer glossy coatings with weatherability and water resistance)

IT 160004-41-1P 160004-42-2P 160004-44-4P 160004-45-5P

160004-46-6P 160004-47-7P **160041-60-1P**

(fluorine-contg. vinyl polymer glossy coatings with weatherability and water resistance)

L17 ANSWER 9 OF 10 HCA COPYRIGHT 2004 ACS on STN

101:17301 Effect of polyvinyl phosphonates and ethane hydroxy diphosphonate on mineralization of ectopic bone. Rath, N. C.; Dimitrijevič, S.; Anbar, M. (Dep. Biophys. Sci., State Univ. New York, Buffalo, NY, 14214, USA). *Chemico-Biological Interactions*, 48(3), 339-47 (English) 1984. CODEN: CBINA8. ISSN: 0009-2797.

AB The effects of polymeric polyphosphonate [27754-99-0] and of ethanehydroxydiphosphonate [2809-21-4] on the development of ectopic bone were compared at different stages of bone development. The diphosphonate affected bone development at different stages, as

reflected by alk. phosphatase and aryl sulphatase activities, as well as by the creation of Ca^{2+} by bone and on its readiness to undergo isotopic exchange. The polymeric polyphosphonate (mol. wt. 3500-8000), on the other hand, did not exhibit any of these effects, although it did inhibit the activity of the enzymes in vitro to an extent comparable with that of the diphosphonate. The results corroborate the assumption that the effects of polymeric polyphosphonate on hard tissues are confined to the extracellular space while the effects of diphosphonates on bone development are due to intracellular activity and not to sequestering of extracellular Ca^{2+} .

IT 27754-99-0P

(prepn. and bone mineralization response to)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



CC 1-12 (Pharmacology)

IT 27754-99-0P

(prepn. and bone mineralization response to)

L17 ANSWER 10 OF 10 HCA COPYRIGHT 2004 ACS on STN

60:10584 Original Reference No. 60:1935e-g **Composition** for producing adherent coatings on metal parts. (Farbwerke Hoechst A.-G.). GB 935955 19630904, 10 pp. (Unavailable). PRIORITY: DE 19591118.

AB Metal parts are treated with a soln. contg. a copolymer of vinylphosphonic acid (I), poly(vinyl phosphonic acid), and (or) a semiester of I. Thus, degreased steel plates are first pickled and are coated after rinsing with a soln. contg. 12.5 g. copolymer of I and methacrylic acid (mole ratio 0.6:1) in 36.5% by vol. iso-PrOH. After drying for 5 min. at 150.degree., a uniform reddish coating is formed. This is then coated in 2 stages with an alkyd primer and an enamel. After baking, the plates thus treated give excellent results in conventional corrosion and adhesion tests comparable to those obtained with a good passivated phosphate layer.

IT 27936-88-5, Phosphonic acid, vinyl-, polymer with acrylic acid

(coatings for metals from)

RN 27936-88-5 HCA

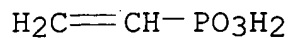
CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA

INDEX NAME)

CM 1

CRN 1746-03-8

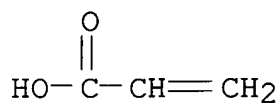
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IT 55972-36-6, Methacrylic acid, polymer with vinylphosphonic acid

(coatings for metals from, adhesion-improving corrosion-preventing)

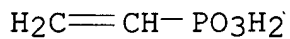
RN 55972-36-6 HCA

CN 2-Propenoic acid, 2-methyl-, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

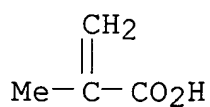
CMF C2 H5 O3 P



CM 2

CRN 79-41-4

CMF C4 H6 O2



IC B05
CC 52 (Coatings, Inks, and Related Products)
IT **Coating(s)**
(for metals, from vinylphosphonic acid polymers,
adhesion-improving or corrosion-inhibiting)
IT **27936-88-5**, Phosphonic acid, vinyl-, polymer with acrylic
acid
(coatings for metals from)
IT **55972-36-6**, Methacrylic acid, polymer with vinylphosphonic
acid
(coatings for metals from, adhesion-improving
corrosion-preventing)

=> d 118 1-14 cbib abs hitstr hitind

L18 ANSWER 1 OF 14 HCA COPYRIGHT 2004 ACS on STN

139:188347 Photosensitive lithographic printing plate material, its
manufacture, and aqueous coating solution for the manufacture.
Kuroki, Takaaki; Hirabayashi, Kazuhiko (Konica Co., Japan). Jpn.
Kokai Tokkyo Koho JP 2003233170 A2 20030822, 26 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 2002-33872 20020212.

AB The printing plate material has an intermediate layer between a
substrate and a photopolymerizable layer contg. ethylenically
addn.-polymerizable compds. and radical generators sensitive to
actinic energy beam. In manufg. the printing plate, the
intermediate layer is formed by coating process, where the layer is
heated at the max. plate surface temp. 105-250.degree.. Preferably,
the substrate is electrochem. surface-roughened with an acidic
medium and then treated with an aq. soln. contg. polyvinylphosphonic
acid before formation of the intermediate layer. Also claimed is an
aq. coating soln. contg. ethylenically addn.-polymerizable compds.,
ring-opening polymerizable compds., amino group-contg. compds., or
alkoxy group-contg. compds. for formation of the intermediate layer.
The obtained printing plate material has high interlayer adhesion,
printability, and background soiling resistance.

IT **27754-99-0**, Polyvinylphosphonic acid
(substrate-treating agent; heat treatment of intermediate layer
in manuf. of photosensitive lithog. printing plate material for
high interlayer adhesion)

RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC ICM G03F007-00
ICS B41N001-14; B41N003-03; B41N003-04; C25D011-16; G03F007-11;
G03F007-38

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

IT **Coating materials**
(water-thinned, soln. for; heat treatment of intermediate layer
in manuf. of photosensitive lithog. printing plate material for
high interlayer adhesion)

IT **27754-99-0, Polyvinylphosphonic acid**
(substrate-treating agent; heat treatment of intermediate layer
in manuf. of photosensitive lithog. printing plate material for
high interlayer adhesion)

L18 ANSWER 2 OF 14 HCA COPYRIGHT 2004 ACS on STN

138:9682 Preparing an ink jet ink imaged lithographic printing plate and
printing plate. Huang, Jianbing; Saraiya, Shashikant; Pappas, S.
Peter (Kodak Polychrome Graphics, L.L.C., USA). PCT Int. Appl. WO
2002094571 A1 20021128, 26 pp. DESIGNATED STATES: W: JP; RW: AT,
BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-US14332
20020507. PRIORITY: US 2001-860814 20010518.

AB The title method comprises the steps of (a) imagewise applying onto
a substrate coated with an ink jet ink reactive coating compn.
comprising a diazonium material, an ink jet ink to produce an imaged
coated substrate where the ink jet ink imaged regions are oleophilic
and more developer-insol. than nonimaged regions; (b) and contacting
the imaged and nonimaged regions of the imaged coated substrate and
an aq. developer to selectively remove the coating from the
developer sol. nonimaged regions. Post-curing of the
developer-insol. imaged regions are carried out last.

IT **27754-99-0, Poly(vinyl phosphonic acid)**
(plate treatment; prepg. an ink jet ink imaged lithog. printing
plate)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC ICM B41J002-01
ICS B41M005-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 42
IT **Coating materials**
(contg. diazonium material reactive with ink jet ink for imaging
lithog. printing plate)
IT **27754-99-0, Poly(vinyl phosphonic acid)**
(plate treatment; prepg. an ink jet ink imaged lithog. printing
plate)

L18 ANSWER 3 OF 14 HCA COPYRIGHT 2004 ACS on STN
136:290534 Irreversibly coated pesticidal particles comprising a nuclear
polyhedrosis virus. Medugno, Claudia Conti; Lessa, Marina Moraes
(Embrapa-Empresa Brasileira de Pesquisa Agropecuaria, Brazil). PCT
Int. Appl. WO 2002026040 A1 20020404, 26 pp. DESIGNATED STATES: W:
AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD,
RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES,
FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD,
TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-BR112
20000928.

AB Coated pesticidal particles comprise (a) a core consisting of a
nuclear polyhedrosis virus, such as Baculovirus, (b) a surrounding
thin layer of a matrix comprising a polymer selected from polyvinyl
or polystyrene phosphoric acid, polyvinyl or polystyrene sulfuric
acid, polyvinyl or polystyrene sulfonic acid, polyvinyl or
polystyrene phosphonic acid, polyacrylic acid and their salts, and
optionally (c) ultrafine particles, wherein the core particles are
irreversibly and individually coated.

IT **27754-99-0, Polyvinyl phosphonic acid**
(coating for pesticidal particles comprising nuclear polyhedrosis
virus)

RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



IC ICM A01N063-00
ICS A01N025-26; A01N049-00; A01N059-26; A61K009-50; A61K009-52;
A61K009-58
CC 5-6 (Agrochemical Bioregulators)
IT **Coating materials**
(latex; coating for pesticidal particles comprising nuclear
polyhedrosis virus)
IT 9003-01-4, Polyacrylic acid 9003-53-6D, Polystyrene,
sulfuric/phosphoric acid derivs. 25191-25-7, Polyvinyl sulfuric
acid 26101-52-0, Polyvinyl sulfonic acid **27754-99-0**,
Polyvinyl phosphonic acid 29690-74-2 50851-57-5, Polystyrene
sulfonic acid 152776-25-5, Polystyrene phosphonic acid
(coating for pesticidal particles comprising nuclear polyhedrosis
virus)
L18 ANSWER 4 OF 14 HCA COPYRIGHT 2004 ACS on STN
130:227783 Biomimetic calcium phosphate implant coatings and methods for
making the same. Sarangapani, Shantha; Calvert, Paul D. (Icet,
Inc., USA). PCT Int. Appl. WO 9911202 A1 19990311, 44 pp.
DESIGNATED STATES: W: CA, JP; RW: AT, BE, CH, CY, DE, DK, ES, FI,
FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.
APPLICATION: WO 1998-US18526 19980904. PRIORITY: US 1997-58105
19970905.
AB This invention encompasses porous, nanocryst., biomimetic Ca
phosphate coatings of the order of 2-30 . μ m that can be grown on
metal implants. The chem. surface treatments and methods for making
the Ca phosphate coatings are disclosed. Post treatment with dil.
hydrogels such as poly(hydroxyethyl methacrylate), reinforces the
inorg. structure and enhances the mech. strength of the coatings.
Methods are also disclosed for adsorbing or covalently attaching
growth factor proteins to the hydrogel-coated Ca phosphate coatings.
Such hydrogel-reinforced Ca phosphate coatings show equiv. bone
tissue growth as the currently used implants and are easily
resorbed. This property in combination with the immobilized growth
factors is expected to enhance the process of osteointegration of
the disclosed coatings.
IT **27754-99-0**, Polyvinylphosphonic acid
(as nucleation agent; oxidized implant surface pretreatment with
nucleation agents for biomimetic calcium phosphate coatings)
RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)
CM 1
CRN 1746-03-8
CMF C2 H5 O3 P



IC ICM A61F002-28
ICS A61K033-42; C12N011-04; C12N011-08; C12N011-14; C08H001-00;
C01F001-00; C01F011-02; C01B025-01; C01B025-02
CC 63-7 (Pharmaceuticals)
IT **Coating process**
(plasma spraying; biomimetic calcium phosphate implant coatings)
IT 7664-38-2, Phosphoric acid, biological studies 26101-52-0,
Polyvinylsulfonic acid **27754-99-0**, Polyvinylphosphonic
acid
(as nucleation agent; oxidized implant surface pretreatment with
nucleation agents for biomimetic calcium phosphate coatings)

L18 ANSWER 5 OF 14 HCA COPYRIGHT 2004 ACS on STN
129:347345 Encrustation-resistant and antibacterial coatings for medical
applications. Sarangapani, Shantha (Icet, Inc., USA). PCT Int.
Appl. WO 9850461 A1 19981112, 43 pp. DESIGNATED STATES: W: CA, JP;
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1998-US9000
19980504. PRIORITY: US 1997-851306 19970505.

AB The title coatings comprise acids selected from aminocarboxylic
acids, tricarboxylic acids, amino acids, phosphonic acids, and
phenolic compds., polymers, and Ag powder. The coatings resist
bacterial colonization and encrustation and are useful in medical
devices and urol. applications. The coating typically includes
acidic chelating components, reactively bound to a hydrophilic
polyurethane prepolymer along with noble metal combinations or
antibacterials. The acidic and noble metal combinations can also be
incorporated as additives during plastic molding of medical devices.
Continuous antibacterial surfaces are provided by such coatings and
materials.

IT **27754-99-0**, Poly(vinyl phosphonic acid)
(encrustation-resistant and antibacterial coatings for medical
applications)
RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



IC ICM C08K003-10
ICS C08K005-10; C08K005-09; C08K005-51
CC 63-8 (Pharmaceuticals)
Section cross-reference(s): 42
IT **Coating materials**
(bactericidal, encrustation-resistant; encrustation-resistant and antibacterial coatings for medical applications)
IT 60-00-4, EDTA, uses 67-43-6, DTPA 77-92-9, Citric acid, uses 102-29-4, Resorcinol monoacetate 107-35-7, Taurine 407-41-0 **27754-99-0**, Poly(vinyl phosphonic acid)
(encrustation-resistant and antibacterial coatings for medical applications)

L18 ANSWER 6 OF 14 HCA COPYRIGHT 2004 ACS on STN
129:68876 Coating of metals with adherent, anticorrosive coatings based on polyphosphonic acids. Negele, Ute; Becher, Chris (Daimler-Benz A.-G., Germany). Eur. Pat. Appl. EP 846733 A2 19980610, 5 pp.
DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (German). CODEN: EPXXDW. APPLICATION: EP 1997-120144 19971118. PRIORITY: DE 1996-19650478 19961205.
AB In the title process, metals are coated with mixts. of polymers bearing several phosphonic acid groups/mol. and polymers having glass temp. >100.degree. and/or low-mol. wt. phosphonic and/or carboxylic acids (C no. .ltoreq.30). A rolled steel plate was primed with a 5% aq. soln. of poly(vinylphosphonic acid) (mol. wt. 12,000), baked at 200.degree. for 10 min, and spray coated with a conventional coating compn. to give a coating with good wet and dry adhesion and resistance to salt-spray corrosion.
IT **27754-99-0**, Poly(vinylphosphonic acid)
(coating of metals with adherent, anticorrosive coatings based on polyphosphonic acids)
RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8
CMF C2 H5 O3 P

no Polyvinyl alcohol mentioned (coral translation)



IC ICM C09D005-08
CC 42-2 (Coatings, Inks, and Related Products)
IT **Coating materials**
(anticorrosive, primers; coating of metals with adherent, anticorrosive coatings based on polyphosphonic acids)

IT 27754-99-0, Poly(vinylphosphonic acid)
(coating of metals with adherent, anticorrosive coatings based on polyphosphonic acids)

L18 ANSWER 7 OF 14 HCA COPYRIGHT 2004 ACS on STN
120:56762 Hydrophilic coatings for sealing the surfaces of plates, films or strips. Tost, Peter; Hauck, Gerhard; Herting, Hans Peter (Polychrome GmbH, Germany). Ger. DE 4203010 C1 19930715, 3 pp. (German). CODEN: GWXXAW. APPLICATION: DE 1992-4203010 19920203.

AB The title coatings, giving sheets useful as supports for radiation-sensitive layers or offset printing plates, are prepd. from solns. contg. poly(vinylphosphonic acid) (I) 0.01-10 and HF 0.005-5 g/L. An anodized Al plate was dipped in an aq. soln. of I 0.5 and HF 0.3 g/L at 50.degree. for 10 s and dried at 100.degree. to give a plate which was used in the prepn. of a wear-resistant printing plate.

IT 27754-99-0, Poly(vinylphosphonic acid)
(coatings, for sealing the surfaces of plates, sheets and strips)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC ICM C09D143-02
ICS C09D007-12; B41M001-02; B05D001-18

ICA B32B015-20

CC 42-7 (Coatings, Inks, and Related Products)
Section cross-reference(s): 74

IT **Coating materials**

(water-thinned, poly(vinylphosphonic acid) and hydrofluoric acid, for sealing the surfaces of plates, sheets and strips)

IT 7664-39-3, Hydrofluoric acid, uses 27754-99-0,
Poly(vinylphosphonic acid)

(coatings, for sealing the surfaces of plates, sheets and strips)

L18 ANSWER 8 OF 14 HCA COPYRIGHT 2004 ACS on STN
107:8981 Hydrophilic coatings. Toyose, Kikuro; Hatanaka, Koichi; Fukui, Masanobu (Kobe Steel, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61264040 A2 19861121 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-93373 19850430.

AB Solns., giving coatings with excellent hydrophilicity even when stained with oil, useful for Al fins in heat exchangers, contain

0.5-10% water-sol. polymers (d.p. 30-2000) selected from poly(alkenesulfonic acid), poly(alkenephosphonic acid), maleic acid-styrene copolymer, polyacrylamide, butene-maleic acid copolymer, poly(acrylic acid) (I), and/or their salts and 1-10% SiO₂ [as xM₂O.ySiO₂ (II; M = Li, Na, K; y/x .gtoreq.2)]. Thus, an Al plate was coated with an aq. soln. contg. 2.5% I (d.p. 300) and 5% SiO₂ [as II (M = Na, y/x = 3)] and dried to form a 0.2-.mu. coating with water contact angle .ltoreq.10.degree. initially and .ltoreq.10.degree. after 10 days under oily atm., vs. 11-30.degree. and .gtoreq.31.degree., resp., using only I.

IT 27754-99-0, Poly(vinylphosphonic acid)
 (coatings, contg. silica, hydrophilic, for aluminum fins in heat exchangers)
 RN 27754-99-0 HCA
 CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 1746-03-8
 CMF C2 H5 O3 P



IC ICM C08L033-02
 ICS B41N003-08; C08K003-34; C08L033-26; C08L035-00; C08L041-00; C08L043-02; F28F013-18
 CC 42-7 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 56
 IT **Coating materials**
 (hydrophilic, polymers contg. silica/as, oilproof, for aluminum fins in heat exchangers)
 IT 9003-01-4, Poly(acrylic acid) 9003-05-8, Polyacrylamide
 25300-64-5, Maleic acid-styrene copolymer 26101-52-0,
 Poly(vinylsulfonic acid) 27754-99-0, Poly(vinylphosphonic acid) 104934-18-1
 (coatings, contg. silica, hydrophilic, for aluminum fins in heat exchangers)
 L18 ANSWER 9 OF 14 HCA COPYRIGHT 2004 ACS on STN
 100:41796 Post treatment of aluminum oxide layers with alkali metal silicate-containing aqueous solutions in the preparation of offset printing plates. Usbeck, Gerhard; Block, Hans (Hoechst A.-G. , Fed. Rep. Ger.). Ger. Offen. DE 3219922 A1 19831201, 35 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1982-3219922 19820527.
 AB Anodized Al is treated in an aq. alkali metal silicate soln. contg. an aliph. hydroxy-mono-, di- or tricarboxylic acid, an aliph. dicarboxylic acid (e.g. succinic) or their H₂O-sol. salts by

immersion or electrochem. to render it more suitable as a support for offset printing plates. Thus, Al foil was electrochem. (a.c.) roughened in dil. HNO₃ and then anodized in dil. H₂SO₄. The foil was finally either treated in Na₂SiO₃·5H₂O, or K Na tartrate or a mixt. of both, and a comparison was made with foil not post-treated. Several different baths for post-treatment are given.

IT 27754-99-0

(in posttreatment of anodized aluminum, for offset printing plates)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC C25D011-18; C25D011-04; B41N001-04

CC 72-7 (Electrochemistry)

Section cross-reference(s): 74

IT **Coating materials**

(anodic, on aluminum, posttreatment of)

IT 994-36-5 2836-32-0 3105-51-9 6915-15-7 7757-83-7

14047-56-4 14906-97-9 18016-19-8 **27754-99-0**

(in posttreatment of anodized aluminum, for offset printing plates)

L18 ANSWER 10 OF 14 HCA COPYRIGHT 2004 ACS on STN

85:128553 Post-treatment of phosphated metal surfaces. Schott, Martin; Auel, Theodor (Hoechst A.-G., Fed. Rep. Ger.). Ger. Offen. DE 2455624 19760526, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1974-2455624 19741123.

AB Corrosion resistant, chromate-free coatings are produced on phosphatized ferrous alloys by treating with an aq. soln., contg. the Na or NH₄ salt of (1-phenylvinyl)phosphonic acid (I) or poly[(1-phenylvinyl)phosphonic acid] (II). Mixed polymers of (I) with acrylic or methacrylic acids or their esters are also used, provided the amt. of I in the polymer is >30%. The aq. treating soln. contains 0.1-0.5 g/l I or II. The pH is adjusted to 3.8-4.8 by addn. of H₃PO₄, citric acid, or tartaric acid. This treatment also allows subsequent deposition of adherent lacquer coatings. Thus, a cold-rolled steel sheet was phosphatized in a weakly acidic alkali phosphate soln., and a phosphate coating of .apprx.750 mg/m² was generated. After rinsing and drying, the sheet was treated with an aq. soln. contg. 0.6 g polymeric (1-phenylvinyl)phosphonic

acid/l. at pH 4. The treated sheet was dried, then electrophoretically primed with an epoxy ester coating which was baked 30 min at 180.degree.. The coated sheet exhibited no corrosion when subjected to a salt spray test for 120 hr.

IT 27754-99-0
(treatment of phosphated steel with, for epoxy ester coating)
RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8
CMF C2 H5 O3 P

$\text{H}_2\text{C}=\text{CH}-\text{PO}_3\text{H}_2$

IC C07F009-38
CC 55-6 (Ferrous Metals and Alloys)
IT Coating process
(of steel, with phosphates, post treatment for)
IT 3220-50-6 27754-99-0 60406-21-5 60406-23-7
60406-25-9 60406-26-0 60406-62-4 60406-63-5
(treatment of phosphated steel with, for epoxy ester coating)

L18 ANSWER 11 OF 14 HCA COPYRIGHT 2004 ACS on STN
80:39972 Surface treatment of electromagnetic steel plate. Kitayama, Minoru; Nakamura, Motoharu; Okada, Hiroshi (Nippon Steel Corp.). Jpn. Tokkyo Koho JP 48008700 B4 19730316 Showa, 3 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 1969-63989 19690813.

AB A 0.5-1.5% soln. of a poly(alkenephosphonic acid) or a copolymer of an unsatd. org. compd. and an alkenephosphonic acid is applied to the steel plates. Compared with electromagnetic steel plates coated with phosphates or chromates, the plates treated as in the invention had greater punching resistance and corrosion resistance. The alkenephosphonic acids include vinylphosphonic acid, propenephosphonic acid, and allylphosphonic acid. The alkenephosphonic acid copolymers include those with crotonic acid, acrylic acid, or maleic anhydride.

IT 27754-99-0
(coating with, on transformer steel plates)
RN 27754-99-0 HCA
CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



IC C23F; H01F; C21D

CC 55-6 (Ferrous Metals and Alloys)

IT **Coating process**

(of transformer steel plates, with alkenephosphonic acid polymers)

IT **27754-99-0** 52285-32-2 52285-33-3

(coating with, on transformer steel plates)

L18 ANSWER 12 OF 14 HCA COPYRIGHT 2004 ACS on STN

74:43649 Electrophoretic coating of electrically conducting articles by resins. (Chemische Werke Albert). Fr. Demande FR 2015964 19690818, 13 pp. (French). CODEN: FRXXBL. PRIORITY: DE 19680820.

AB Metals were coated uniformly by electrophoresis using polyesters or polypropylene suspensions contg. 0.5-2% poly(vinylphosphonic acid) (I) or H₃P₀4. As an example, a powd. (<30 .mu.) polyester (mol. wt. <2500) prep'd. from 1,4-butanediol, HO(CH₂)₂OBu, adipic acid, and styrene-maleic anhydride copolymer, was suspended in H₂O, mixed with Na lauryl sulfate, alkylphenol polyether, I, and octyl alc., and the suspension used for coating steel plates at 5 mA/cm² at 50 V to give a uniform coating. Heating at 185.degree. gave a brilliant and smooth coating.

IT **27754-99-0**

(electrophoretic coating in presence of, with polyesters-propene polymers)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC C23B

CC 42 (Coatings, Inks, and Related Products)

IT **Coating process**

(electrophoretic, with polyesters-propene polymers, in presence of vinylphosphonic acid polymers)

IT **27754-99-0**

(electrophoretic coating in presence of, with polyesters-propene polymers)

L18 ANSWER 13 OF 14 HCA COPYRIGHT 2004 ACS on STN

63:64388 Original Reference No. 63:11876b-c Oxalate metal coatings with greater coat thickness. Herbst, Willy; Ludwig, Heinz (Metallgesellschaft A.-G.). DE 1196467 19650708, 2 pp. (Unavailable). APPLICATION: DE 19610307.

AB Metals are coated with solns. contg. oxalic acid, one or more oxidizing accelerators, Fe salts, or K trioxalatochromate, and poly(vinylphosphonic acid) (I), and (or) a water-sol. copolymer of an alkenephosphonic acid with an unsatd. org. compd. Thus, motor-car bodywork steel sheets are dipped for 10 min. at 18.degree. into a soln. contg. oxalic acid dihydrate 15, NaClO₄ 8, and FeSO₄·7H₂O 5, I 0.8-15, a copolymer of vinylphosphonic acid (II) with acrylic acid (mole ratio 80:20) 1-4, or a copolymer of II with vinyl acetate (mole ratio 80:20) 0.8-1.9 g./l.

IT 27754-99-0, Phosphonic acid, vinyl-, homopolymer
(metal coating with oxalates in presence of, to increase coat thickness)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC C23F

CC 52 (Coatings, Inks, and Related Products)

IT Coating(s)

(of metals, with oxalates and with vinylphosphonic acid polymers increasing coat thickness)

IT 15054-01-0, Chromate(III), trioxalato- 27754-99-0,
Phosphonic acid, vinyl-, homopolymer

(metal coating with oxalates in presence of, to increase coat thickness)

L18 ANSWER 14 OF 14 HCA COPYRIGHT 2004 ACS on STN

62:28410 Original Reference No. 62:5029d-f Aftertreatment of phosphate layers. Herbst, Willy; Wagner, Ernst (Metallgesellschaft A.-G.). DE 1182928 19641203, 2 pp. (Unavailable). APPLICATION: DE 19600416.

AB To improve the protection against corrosion, phosphatized metal surfaces are aftertreated with solns. of 0.0001-2, preferably 0.001-1% by wt. polymer contg. poly(vinylphosphonic acid) and (or) copolymers of vinyl phosphonic acid (I) and its acid derivs. in which only 1 free OH group per monomer unit is present in the P atom, preferably its semiester, with simple or multiple unsatd. org.

comps. of polar character, e.g. acrylic (II) or methacrylic acid and their esters, amides, nitriles, further vinyl esters as acetate or propionate, maleic acid anhydride and crotonic acid. Aliphatic alcs. of 1-4 C atoms, preferably iso-PrOH, mixed with H₂O with addn. of wetting agents, can be used like solvents of the foregoing polymerizates. The phosphatized metal objects are briefly treated by spraying, dipping, or flooding, e.g. for some sec. up to some min., and subsequently dried at 80-250.degree., preferably 120-180.degree.. For example, auto body steel plates were degreased in known ways for 10 min. at 98.degree., cold rinsed, and phosphatized for 15 min. at 60.degree. on a customary phosphatizing bath contg. an oxidizing accelerator, with a light gray Zn phosphate layer. After rinsing, the plates were dipped for 20 sec. into a 0.4 g./l. soln. of the copolymer from I and II (mole ratio 80:20) and dried then for 5 min. at 150.degree.. Finally, the plates were finished in 2 stages of always 25 min. at 145.degree. with an alkyd resin stoving lacquer.

IT 27754-99-0, Phosphonic acid, vinyl-, homopolymer
(phosphate coating treatment with, for corrosion prevention)

RN 27754-99-0 HCA

CN Phosphonic acid, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

CMF C2 H5 O3 P



IC C23F

CC 20 (Nonferrous Metals and Alloys)

IT **Coating(s)**

(phosphate, corrosion-prevention treatment for)

IT 27754-99-0, Phosphonic acid, vinyl-, homopolymer

(phosphate coating treatment with, for corrosion prevention)

=> d 119 1-22 ti

L19 ANSWER 1 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Phosphonic acid-modified microgel dispersion

L19 ANSWER 2 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Weather-resistant polymeric coatings for aluminum alloy

L19 ANSWER 3 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Process for making radiation-curable polymer-coated aluminum alloy

sheets for food and beverage containers and architectural uses

L19 ANSWER 4 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoters or as protecting agents against the corrosion of a metallic surface

L19 ANSWER 5 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Organic thin film transistor with polymeric interface

L19 ANSWER 6 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Water-soluble polymeric stabilizer for pigment dispersions

L19 ANSWER 7 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Method for pretreating and subsequently coating metallic surfaces with a paint-type coating prior to forming and use of substrates coated in this way

L19 ANSWER 8 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Radiation polymerizable monomers and polymers, copolymer preparation and use in coatings, sealants, adhesives, and stereolithography

L19 ANSWER 9 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Ultrahydrophobic acrylic lacquers

L19 ANSWER 10 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Pretreatment for coating an aluminum alloy substrate

L19 ANSWER 11 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Treating metal surfaces

L19 ANSWER 12 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Manufacture of copolymer primer coated aluminum alloy sheet for food and beverage containers

L19 ANSWER 13 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Polymeric film having a coating layer of a phosphonic acid group containing polymer

L19 ANSWER 14 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Aqueous dispersion paints containing polymers having phosphonate groups

L19 ANSWER 15 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Manufacture of self-extinguishing open-cell polyolefin foams

L19 ANSWER 16 OF 22 HCA COPYRIGHT 2004 ACS on STN

TI Improving the adhesion of coatings on metal substrates

L19 ANSWER 17 OF 22 HCA COPYRIGHT 2004 ACS on STN
TI Oxidative drying of aqueous polymer dispersions

L19 ANSWER 18 OF 22 HCA COPYRIGHT 2004 ACS on STN
TI Adherent coatings on metal parts

L19 ANSWER 19 OF 22 HCA COPYRIGHT 2004 ACS on STN
TI Protecting metals from corrosion

L19 ANSWER 20 OF 22 HCA COPYRIGHT 2004 ACS on STN
TI Coating of metallic objects with poly(vinylphosphonic acid) films

L19 ANSWER 21 OF 22 HCA COPYRIGHT 2004 ACS on STN
TI Organic coatings for metallic surfaces

L19 ANSWER 22 OF 22 HCA COPYRIGHT 2004 ACS on STN
TI Oxalate coatings on metals

=> d 119 2,3,4,7,8,10,11,12,13,16,18,19,20,21 cbib abs hitstr hitind

L19 ANSWER 2 OF 22 HCA COPYRIGHT 2004 ACS on STN
140:201157 Weather-resistant polymeric coatings for aluminum alloy.
Schultz, Paul B.; Guthrie, Joseph D.; Mccleary, Sherri F.;
Marinelli, James M.; Bovard, Francine S. (USA). U.S. Pat. Appl.
Publ. US 2004043158 A1 20040304, 4 pp. (English). CODEN: USXXCO.
APPLICATION: US 2002-233988 20020904.

AB A weather-resistant polymeric coating is applied to an aluminum alloy body by coating a surface portion of the body with a primer compn. contg. a vinylphosphonic acid-acrylic acid copolymer to form a primer layer, followed by coating the primer layer with a weather-resistant polymeric coating compn. The aluminum alloy body preferably comprises an aluminum alloy extrusion contg. an alloy of the AA5000 or AA6000 series. The coating compn. preferably contains a cyano modified satd. carboxylated polyester or a zinc rich epoxy, each preferably applied by powder coating. The coated products are used for architectural applications and as components of vehicle bodies.

IT **27936-88-5**, Acrylic acid-vinyl phosphonic acid copolymer
(primer layer-contg.; prodn. of weather-resistant polymeric coatings for aluminum alloy)

RN 27936-88-5 HCA

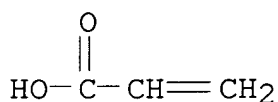
CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CRN 1746-03-8
CMF C2 H5 O3 P



CM 2

CRN 79-10-7
CMF C3 H4 O2



IC ICM B05D001-36

NCL 427407100

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating materials**

(powder; prodn. of weather-resistant polymeric coatings for aluminum alloy)

IT **Coating materials**

(weather-resistant; prodn. of weather-resistant polymeric coatings for aluminum alloy)

IT **27936-88-5, Acrylic acid-vinyl phosphonic acid copolymer**

(primer layer-contg.; prodn. of weather-resistant polymeric coatings for aluminum alloy)

L19 ANSWER 3 OF 22 HCA COPYRIGHT 2004 ACS on STN

140:182817 Process for making radiation-curable polymer-coated aluminum alloy sheets for food and beverage containers and architectural uses. Schultz, Paul B.; Levendusky, Thomas L.; Ankney, Ronald G. (Alcoa Inc., USA). U.S. US 6696106 B1 20040224, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 2002-241632 20020911.

AB The process comprises (a) pretreating a surface portion of an aluminum alloy sheet with a primer compn. contg. a vinyl phosphonic acid-acrylic acid copolymer having vinyl phosphonic acid content 5-50 mol% to form a primer layer on the sheet, (b) coating the sheet primer layer with a coating compn. comprising a radiation-curable polymer precursor selected from epoxy acrylates, polyester acrylates, and silicones, and (c) irradiating the polymer precursor with UV or electron beam radiation at dosage level 2-20 MEGA rads to polymerize the polymer precursor and to form an aluminum alloy sheet having a polymer coating.

IT **27936-88-5, Acrylic acid-vinylphosphonic acid copolymer**

(primer; process for making radiation-curable polymer-coated

aluminum alloy sheets for food and beverage containers and architectural uses)

RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

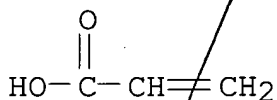
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM B05D001-36

ICS B05D001-38; B05D003-06

NCL 427496000; 427508000; 427409000; 427410000

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 17, 42; 56, 58

IT **Coating materials**

(UV-curable; process for making radiation-curable polymer-coated aluminum alloy sheets for food and beverage containers and architectural uses)

IT **Coating materials**

(electron-beam-curable; process for making radiation-curable polymer-coated aluminum alloy sheets for food and beverage containers and architectural uses)

IT **Coating materials**

(radiation-curable; process for making radiation-curable polymer-coated aluminum alloy sheets for food and beverage containers and architectural uses)

IT 27936-88-5, Acrylic acid-vinylphosphonic acid copolymer

(primer; process for making radiation-curable polymer-coated aluminum alloy sheets for food and beverage containers and architectural uses)

139:246997 Use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoters or as protecting agents against the corrosion of a metallic surface. Destarac, Mathias; Bonnet-Gonnet, Cecile; Cadix, Arnaud (Rhodia Chimie, Fr.). PCT Int. Appl. WO 2003076529 A1 20030918, 43 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (French). CODEN: PIXXD2. APPLICATION: WO 2003-FR788 20030312. PRIORITY: FR 2002-3111 20020313.

AB The invention relates to the use of a block copolymer having at least one block that comprises phosphate and/or phosphonate functions in order to produce a deposit on a metallic surface, such as a steel or aluminum surface, which can be used, for example, to improve the effectiveness of the subsequent application of a film-forming compn. on the thus altered surface or to protect the metallic surface against corrosion. The invention also relates to a method of applying paint or mastic compns. to a metallic surface, which involves the above-mentioned inventive use of said block copolymers, and the coated metallic materials that can be produced using said application method. A typical block copolymer was manufd. by polymn. of acrylamide (50 g 50% aq. soln.) 5 h at 70.degree. in an aq. Me2CO soln. in the presence of 4,4-azobis(4-cyanovaleric acid) (I) and O-ethyl-S-[(1-methoxycarbonyl)ethyl] xanthate and polymn. of 1.32 g vinylphosphonic acid and 7.14 g acrylic acid at 70.degree. in the resulting soln., with the addn. of more I.

IT **597544-39-3P**, Acrylamide-acrylic acid-vinylphosphonic acid block copolymer sodium salt **597544-40-6P**, Acrylic acid-butyl acrylate-vinylphosphonic acid block copolymer sodium salt (use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoting primers or as protecting agents against corrosion of metallic surfaces)

RN 597544-39-3 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid and 2-propenamide, block, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 597544-36-0

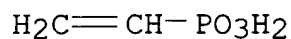
CMF (C3 H5 N O . C3 H4 O2 . C2 H5 O3 P)x

CCI PMS

CM 2

CRN 1746-03-8

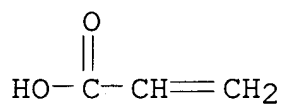
CMF C2 H5 O3 P



CM 3

CRN 79-10-7

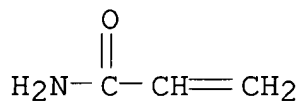
CMF C3 H4 O2



CM 4

CRN 79-06-1

CMF C3 H5 N O



RN 597544-40-6 HCA

CN 2-Propenoic acid, polymer with butyl 2-propenoate and
ethenylphosphonic acid, block, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 597544-38-2

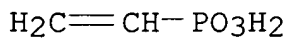
CMF (C7 H12 O2 . C3 H4 O2 . C2 H5 O3 P)x

CCI PMS

CM 2

CRN 1746-03-8

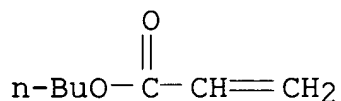
CMF C2 H5 O3 P



CM 3

CRN 141-32-2

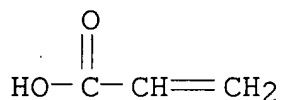
CMF C7 H12 O2



CM 4

CRN 79-10-7

CMF C3 H4 O2



IT **597544-38-2P**, Acrylic acid-butyl acrylate-vinylphosphonic acid block copolymer
(use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoting primers or as protecting agents against corrosion of metallic surfaces)

RN 597544-38-2 HCA

CN 2-Propenoic acid, polymer with butyl 2-propenoate and ethenylphosphonic acid, block (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

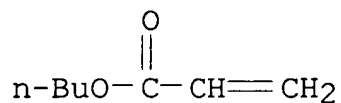
CMF C2 H5 O3 P



CM 2

CRN 141-32-2

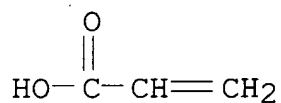
CMF C7 H12 O2



CM 3

CRN 79-10-7

CMF C3 H4 O2



IT **597544-36-0P**, Acrylamide-acrylic acid-vinylphosphonic acid
block copolymer
(use of block copolymers bearing phosphate and/or phosphonate
functions as adhesion promoting primers or as protecting agents
against corrosion of metallic surfaces)

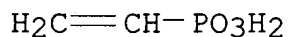
RN 597544-36-0 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid and
2-propenamide, block (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

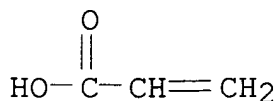
CMF C2 H5 O3 P



CM 2

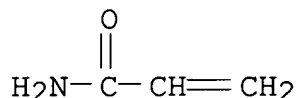
CRN 79-10-7

CMF C3 H4 O2



CM 3

CRN 79-06-1
CMF C3 H5 N O



- IC ICM C09D005-00
ICS C09D007-12; C09J153-00; C09D153-00
- CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 55, 56
- IT **Coating materials**
(anticorrosive; use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoting primers or as protecting agents against corrosion of metallic surfaces)
- IT **597544-39-3P**, Acrylamide-acrylic acid-vinylphosphonic acid block copolymer sodium salt **597544-40-6P**, Acrylic acid-butyl acrylate-vinylphosphonic acid block copolymer sodium salt
(use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoting primers or as protecting agents against corrosion of metallic surfaces)
- IT **597544-38-2P**, Acrylic acid-butyl acrylate-vinylphosphonic acid block copolymer
(use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoting primers or as protecting agents against corrosion of metallic surfaces)
- IT **597544-36-0P**, Acrylamide-acrylic acid-vinylphosphonic acid block copolymer
(use of block copolymers bearing phosphate and/or phosphonate functions as adhesion promoting primers or as protecting agents against corrosion of metallic surfaces)

L19 ANSWER 7 OF 22 HCA COPYRIGHT 2004 ACS on STN
136:326996 Method for pretreating and subsequently coating metallic surfaces with a paint-type coating prior to forming and use of substrates coated in this way. Shimakura, Toshiaki; Bittner, Klaus; Domes, Heribert; Wietzoreck, Hardy; Jung, Christian (Chemteall GmbH, Germany). PCT Int. Appl. WO 2002031065 A2 20020418, 115 pp.
DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.
(German). CODEN: PIXXD2. APPLICATION: WO 2001-EP11738 20011010.

PRIORITY: DE 2000-10050532 20001011; DE 2001-10110830 20010306; DE 2001-10119606 20010421.

AB The invention relates to a method for coating a metallic strip. The strip or optionally, the strip sections produced from said strip in the subsequent process, is/are coated first with at least one anticorrosion layer and then with at least one layer of a paint-like coating contg. polymers and/or with at least one paint coating. After being coated with at least one anticorrosion layer or after being coated with at least one layer of a paint-like coating and/or with at least one paint coating, the strip is divided into strip sections. The coated strip sections are then formed, joined and/or coated with at least one (other) paint-like coating and/or paint coating. At least one of the anticorrosion layers is formed by coating the surface with an aq. dispersion contg. the following in addn. to water: (a) at least one org. film former contg. at least one water-sol. or water-dispersed polymer; (b) a quantity of cations and/or hexa- or tetrafluoro complexes of cations chosen from a group consisting of titanium, zirconium, hafnium, silicon, aluminum and boron; and (c) at least one inorg. compd. in particle form with an av. particle diam. measured on a scanning electron microscope of 0.005 to 0.2 .mu.m. The clean metallic surface is brought into contact with the aq. compn. and a film contg. particles is formed on the metallic surface, this film then being dried and optionally also hardened, the dried and optionally, also hardened film having a layer thickness of 0.01 to 10 .mu.m. The speed of coating metal objects with complex profiles is high using this process and need of Cr6+ compds. and acids is reduced. The coated products are useful in manuf. of automobile bodies, aircraft, and spacecraft.

IT 27936-88-5, Acrylic acid-vinylphosphonic acid copolymer
(anticorrosive primer component; pretreating with anticorrosive primers and subsequently coating metallic surfaces with a paint-type coating prior to forming)

RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

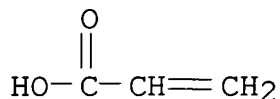
CMF C2 H5 O3/P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM C09D005-00

CC 42-2 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55, 56

IT **Coating process**

(coil; pretreating with anticorrosive primers and subsequently coating metallic surfaces with a paint-type coating prior to forming)

IT 9003-01-4, Polyacrylic acid 9010-77-9, Acrylic acid-ethylene copolymer 11101-13-6 12781-95-2 **27936-88-5**, Acrylic acid-vinylphosphonic acid copolymer

(anticorrosive primer component; pretreating with anticorrosive primers and subsequently coating metallic surfaces with a paint-type coating prior to forming)

L19 ANSWER 8 OF 22 HCA COPYRIGHT 2004 ACS on STN

135:304588 Radiation polymerizable monomers and polymers, copolymer preparation and use in coatings, sealants, adhesives, and stereolithography. Hall, Alan William (The Secretary of State for Defence, UK). PCT Int. Appl. WO 2001/074919 A1 20011011, 82 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SM, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-GB1424 20010330. PRIORITY: GB 2000-7967 20000401; GB 2001-481 20010109.

AB A copolymer is prep'd. from mixts. of R13-sN[(CR2R3)rCR4:CR5R6] (I) and HPdAZC(W):CR7R8 (II), where each R1, if present, is H or hydrocarbyl; r = 0, 1 or 2; s = 2 or 3; R2-4 = H or hydrocarbyl; R5 and R6 = H, halo or hydrocarbyl; Pd is the anion formed by loss of a proton from a proton donating group Pd-H; Z = direct bond or hydrocarbyl; R7 and R8 = H, halo or hydrocarbyl; and either (a) A is an electron accepting group and W = H or hydrocarbyl, (b) W is an electron accepting group and A = direct bond or hydrocarbyl or (c) both A and W are electron accepting groups. The copolymer is made by polymg. a mixt. of I and II or their salts, preferably by exposure to UV radiation. UV polymn. of the protonated forms of methacrylic acid and triallylamine in MeOH in the presence of

Irgacure 184 at room temp. for 30 min gave an adhesive film.

IT 365453-43-6P 365453-46-9P

(crosslinked networks for use in coatings, sealants, adhesives, and stereolithog.)

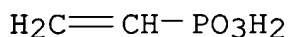
RN 365453-43-6 HCA

CN Phosphonic acid, ethenyl-, compd. with N,N-di-2-propenyl-2-propen-1-amine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

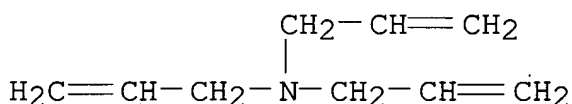
CMF C2 H5 O3 P



CM 2

CRN 102-70-5

CMF C9 H15 N



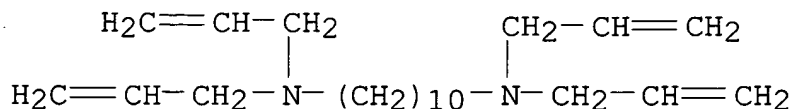
RN 365453-46-9 HCA

CN Phosphonic acid, ethenyl-, compd. with N,N,N',N'-tetra-2-propenyl-1,10-decanediamine (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 54391-14-9

CMF C22 H40 N2



CM 2

CRN 1746-03-8

CMF C2 H5 O3 P



IT 365453-69-6P 365453-79-8P

(crosslinked networks for use in coatings, sealants, adhesives, and stereolithog.)

RN 365453-69-6 HCA

CN Phosphonic acid, ethenyl-, compd. with N,N,N',N'-tetra-2-propenyl-1,10-decanediamine (2:1), homopolymer (9CI) (CA INDEX NAME)

CM 1

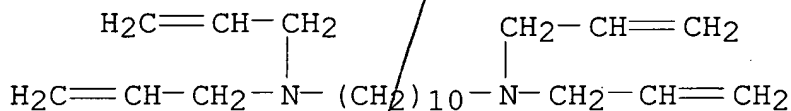
CRN 365453-46-9

CMF C22 H40 N2 . 2 C2 H5 O3 P

CM 2

CRN 54391-14-9

CMF C22 H40 N2



CM 3

CRN 1746-03-8

CMF C2 H5 O3 P



RN 365453-79-8 HCA

CN Phosphonic acid, ethenyl-, compd. with N,N-di-2-propenyl-2-propen-1-amine (1:1), homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 365453-43-6

CMF C9 H15 N . C2 H5 O3 P

CM 2

CRN 1746-03-8

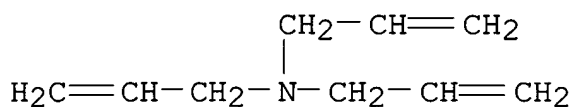
CMF C2 H5 O3 P



CM 3

CRN 102-70-5

CMF C9 H15 N



IC ICM C08F226-02

ICS C08F220-04; C09D133-02; C09D139-02; C09J133-02; C09J139-02

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 38

IT Adhesives

Coating materials

Films

Stereolithography

(crosslinked networks for use in coatings, sealants, adhesives, and stereolithog.)

IT	54391-14-9P	257881-83-7P	365453-27-6P	365453-28-7P
	365453-29-8P	365453-30-1P	365453-31-2P	365453-32-3P
	365453-33-4P	365453-34-5P	365453-35-6P	365453-36-7P
	365453-38-9P	365453-40-3P	365453-41-4P	365453-42-5P
	365453-43-6P	365453-44-7P	365453-45-8P	
	365453-46-9P	365453-56-1P		

(crosslinked networks for use in coatings, sealants, adhesives, and stereolithog.)

IT	365453-37-8P	365453-39-0P	365453-47-0P	365453-50-5P
	365453-53-8P	365453-59-4P	365453-62-9P	365453-63-0P
	365453-66-3P	365453-67-4P	365453-69-6P	365453-70-9P
	365453-71-0P	365453-72-1P	365453-73-2P	365453-74-3P
	365453-75-4P	365453-76-5P	365453-77-6P	365453-78-7P
	365453-79-8P			

(crosslinked networks for use in coatings, sealants, adhesives, and stereolithog.)

L19 ANSWER 10 OF 22 HCA COPYRIGHT 2004 ACS on STN

134:341688 Pretreatment for coating an aluminum alloy substrate.

Guthrie, Joseph D.; Dennis, Alfred M. (Alcoa Inc., USA). PCT Int. Appl. WO 2001032955 A1 20010510, 17 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,

KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.

(English). CODEN: PIXXD2. APPLICATION: WO 1999-US25894 19991103. PRIORITY: US 1998-74136 19980507.

AB An aluminum alloy substrate is pretreated with an aq. soln. contg. an organophosphorus compd., preferably a vinylphosphonic acid-acrylic acid copolymer, before coating the substrate with a polymer. Passing the substrate through the soln. contaminates it with aluminum and other elements. The pretreatment soln. is rejuvenated by removing aluminum with a cation exchange resin that preferably contains a styrene-divinyl benzene copolymer functionalized with sulfonate groups. Rinsing the substrate contaminates the rinse water with the copolymer. The rinse water is concd. by reverse osmosis or membrane ultrafiltration and returned to the pretreatment soln.

IT **27936-88-5**, Acrylic acid-vinylphosphonic acid copolymer
(pretreatment for coating an aluminum alloy substrate)

RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

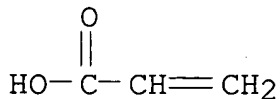
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM C23C022-86

ICS C23C022-56; B05D003-10

CC 42-10 (Coatings, Inks, and Related Products)

IT **Coating process**

(pretreatment for coating an aluminum alloy substrate)

IT 9002-86-2, Polyvinyl chloride 27936-88-5, Acrylic acid-vinylphosphonic acid copolymer
(pretreatment for coating an aluminum alloy substrate)

L19 ANSWER 11 OF 22 HCA COPYRIGHT 2004 ACS on STN

133:254015 Treating metal surfaces. Archer, Adrian Charles; Rush, Susan Marie (Albright & Wilson UK Limited, UK). PCT Int. Appl. WO 2000055391 A1 20000921, 18 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
(English). CODEN: PIXXD2. APPLICATION: WO 2000-GB611 20000222. PRIORITY: GB 1999-5600 19990312.

AB The treatment compn. comprises silica, .gtoreq.1 organophosphonate (or organophosphonate species) and/or .gtoreq.1 organophosphate (or organophosphate species), together with a carrier. The compn. can be applied to the surface of a metal to enhance the resistance of the metal to corrosion and/or to enhance the adhesion to the treated metal of further coatings.

IT 167682-78-2, Acrylic acid-vinylphosphonic acid-vinylsulfonic acid copolymer
(anticorrosive coatings contg. organophosphonates and organophosphates for metals)

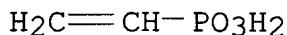
RN 167682-78-2 HCA

CN 2-Propenoic acid, polymer with ethenesulfonic acid and ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

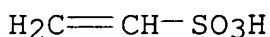
CMF C2 H5 O3 P



CM 2

CRN 1184-84-5

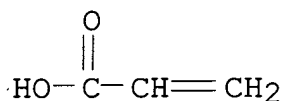
CMF C2 H4 O3 S



CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM C23C022-68

ICS C09D005-08; C09D143-02

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55, 56

IT **Coating process**

(anticorrosive coatings contg. organophosphonates and organophosphates for metals)

IT **Coating materials**

(anticorrosive, water-thinned; anticorrosive coatings contg. organophosphonates and organophosphates for metals)

IT 79-10-7D, Acrylic acid, polymers with unsatd. organophosphonates
79-41-4D, Methacrylic acid, polymers with unsatd. organophosphonates
110-16-7D, Maleic acid, polymers with unsatd. organophosphonates
1746-03-8D, Vinylphosphonic acid, polymers 4724-48-5,
Octylphosphonic acid 5768-48-9, Phosphonosuccinic acid 5962-42-5
7664-38-2D, Phosphoric acid, organo derivs., uses 13598-36-2D,
Phosphonic acid, organo derivs. 34162-79-3, Vinylidene-1,1-
diphosphonic acid 38890-40-3D, polymers **167682-78-2**,
Acrylic acid-vinylphosphonic acid-vinylsulfonic acid copolymer
(anticorrosive coatings contg. organophosphonates and organophosphates for metals)

L19 ANSWER 12 OF 22 HCA COPYRIGHT 2004 ACS on STN

132:167778 Manufacture of copolymer primer coated aluminum alloy sheet for food and beverage containers. Nitowski, Gary A.; Guthrie, Joseph D.; Harenski, Joseph P.; Johnson, Daniel C. (Alcoa Inc., USA). U.S. US 6030710 A 20000229, 4 pp. (English). CODEN: USXXAM. APPLICATION: US 1997-885656 19970630.

AB The coated aluminum alloy sheet with good interlayer adhesion is manufd. by coating an aluminum alloy sheet having a surface portion comprising aluminum oxide or aluminum hydroxide with an water-thinned compn. contg. a vinylphosphonic acid-acrylic acid copolymer to form a primer layer comprising a reaction product of the copolymer and the aluminum oxide or hydroxide, and applying a coating compn. comprising a polymer contg. poly(vinyl chloride), an epoxy resin or a polyester onto the primer layer.

IT **27936-88-5**

(primer; manuf. of copolymer primer coated aluminum alloy sheet
for food and beverage containers)

RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA
INDEX NAME)

CM 1

CRN 1746-03-8

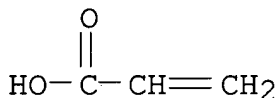
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC ICM B32B015-04

ICS B32B015-08; B05D001-36

NCL 428457000

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 17, 38, 56

IT **Coating materials**

Primers (paints)

(manuf. of copolymer primer coated aluminum alloy sheet for food
and beverage containers)

IT **27936-88-5**

(primer; manuf. of copolymer primer coated aluminum alloy sheet
for food and beverage containers)

L19 ANSWER 13 OF 22 HCA COPYRIGHT 2004 ACS on STN

131:60086 Polymeric film having a coating layer of a phosphonic acid
group containing polymer. Brabbs, Noel Stephen; Street, Andrew
Charles; Goodchild, Karen; Chappel, Cornell, Jr.; Siddiqui, Junaid
Ahmed; Rogers, Stephen Derek (E. I. Du Pont de Nemours & Co., USA).
PCT Int. Appl. WO 9932303 A1 19990701, 23 pp. DESIGNATED STATES: W:
AU, CN, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,
IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2.
APPLICATION: WO 1998-US26588 19981215. PRIORITY: GB 1997-26994
19971223.

AB A polymeric film which is substantially gelatin free has a polymeric film substrate and a coating layer contg. a polymer having .gtoreq.1 or more repeating units having .gtoreq.1 or more pendant (POXY) groups, where X and Y = OH or OM, M is a cation. The polymeric film is suitable for use as a component of a printing plate. Thus, oriented polyester film having a dimethylolurea-crosslinked vinylphosphonic acid-vinylsulfonic acid copolymer hydrophilic coating had water contact angle 26.degree.

IT 227804-88-8P, Acrylic acid-formaldehyde-melamine-vinylphosphonic acid-vinylsulfonic acid copolymer
 227804-89-9P, Acrylic acid-formaldehyde-melamine-vinylphosphonic acid copolymer 227804-90-2P, Acrylic acid-dimethylolurea-vinylphosphonic acid-vinylsulfonic acid copolymer 227804-91-3P, Acrylic acid-dimethylolurea-vinylphosphonic acid copolymer 227804-92-4P, Dimethylolurea-vinylphosphonic acid-vinylsulfonic acid copolymer 227804-93-5P, Formaldehyde-melamine-vinylphosphonic acid copolymer
 (hydrophilic coating on polyester film for printing plate)

RN 227804-88-8 HCA

CN 2-Propenoic acid, polymer with ethenesulfonic acid, ethenylphosphonic acid, formaldehyde and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

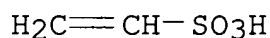
CMF C2 H5 O3 P



CM 2

CRN 1184-84-5

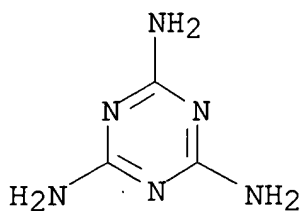
CMF C2 H4 O3 S



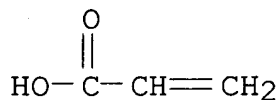
CM 3

CRN 108-78-1

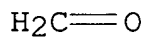
CMF C3 H6 N6



CM 4

CRN 79-10-7
CMF C3 H4 O2

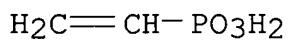
CM 5

CRN 50-00-0
CMF C H2 O

RN 227804-89-9 HCA

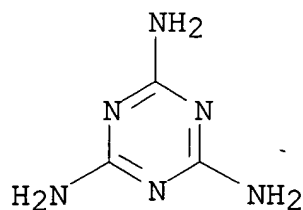
CN 2-Propenoic acid, polymer with ethenylphosphonic acid, formaldehyde
and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8
CMF C2 H5 O3 P

CM 2

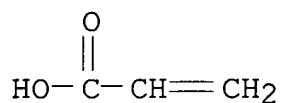
CRN 108-78-1
CMF C3 H6 N6



CM 3

CRN 79-10-7

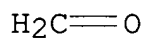
CMF C3 H4 O2



CM 4

CRN 50-00-0

CMF C H2 O



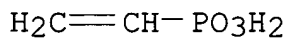
RN 227804-90-2 HCA

CN 2-Propenoic acid, polymer with N,N'-bis(hydroxymethyl)urea, ethenesulfonic acid and ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

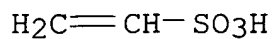
CMF C2 H5 O3 P



CM 2

CRN 1184-84-5

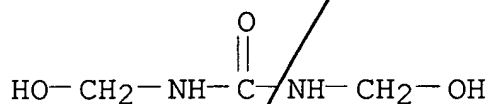
CMF C2 H4 O3 S



CM 3

CRN 140-95-4

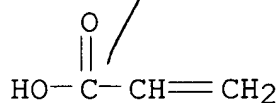
CMF C3 H8 N2 O3



CM 4

CRN 79-10-7

CMF C3 H4 O2



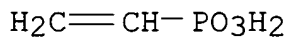
RN 227804-91-3 HCA

CN 2-Propenoic acid, polymer with N,N'-bis(hydroxymethyl)urea and ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

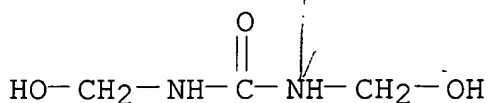
CMF C2 H5 O3 P



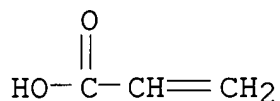
CM 2

CRN 140-95-4

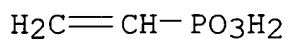
CMF C3 H8 N2 O3



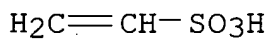
CM 3

CRN 79-10-7
CMF C3 H4 O2RN 227804-92-4 HCA
CN Ethenesulfonic acid, polymer with N,N'-bis(hydroxymethyl)urea and
ethenylphosphonic acid (9CI) (CA INDEX NAME)

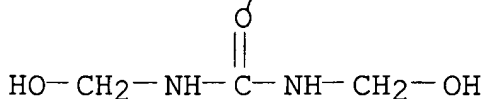
CM 1

CRN 1746-03-8
CMF C2 H5 O3 P

CM 2

CRN 1184-84-5
CMF C2 H4 O3 S

CM 3

CRN 140-95-4
CMF C3 H8 N2 O3RN 227804-93-5 HCA
CN Phosphonic acid, ethenyl-, polymer with formaldehyde and
1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

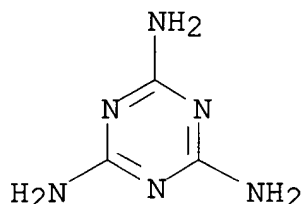
CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



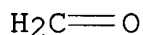
CM 2

CRN 108-78-1
CMF C3 H6 N6



CM 3

CRN 50-00-0
CMF C H2 O



IC ICM B41N003-03

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT **Coating materials**

(hydrophilic coatings; hydrophilic coating on polyester film for printing plate)

IT **227804-88-8P**, Acrylic acid-formaldehyde-melamine-vinylphosphonic acid-vinylsulfonic acid copolymer

227804-89-9P, Acrylic acid-formaldehyde-melamine-vinylphosphonic acid copolymer **227804-90-2P**, Acrylic acid-dimethylolurea-vinylphosphonic acid-vinylsulfonic acid copolymer **227804-91-3P**, Acrylic acid-dimethylolurea-vinylphosphonic acid copolymer **227804-92-4P**,

Dimethylolurea-vinylphosphonic acid-vinylsulfonic acid copolymer **227804-93-5P**, Formaldehyde-melamine-vinylphosphonic acid copolymer

(hydrophilic coating on polyester film for printing plate)

L19 ANSWER 16 OF 22 HCA COPYRIGHT 2004 ACS on STN

89:112580 Improving the adhesion of coatings on metal substrates.

Georgios, Pampouchidis (Vianova Kunstharz A.-G., Austria). Austrian AT 342737 19780425, 5 pp. (German). CODEN: AUXXAK. APPLICATION: AT 1975-8115 19751024.

AB Phosphoric acid or phosphonic acid compds. contg. .gtoreq.1 free OH group and .gtoreq.1 polymerizable double bond are used as adhesion promoters in lacquers and paints to improve their adhesion to Fe, Cu, Zn, Sn, or Al substrates. Thus, 360 g bisphenol A-epichlorohydrin copolymer with epoxide equiv. 172-8 was treated with 564 g tetrahydrophthalic anhydride monohydroxyethyl acrylate ester in the presence of 0.4 g hydroquinone and 0.5 g Et3N at 95-100.degree. until the acid no. of the product was 1-2 mg KOH/g. The solids content of the compn. was adjusted to 80% with a 1:1 Bu acrylate-1,4-butanediol dimethacrylate mixt. and 250 g soln. was mixed with 62.5 g reaction product of 130 g hydroxyethyl methacrylate and 222 g isophorone diisocyanate and 1 g vinylphosphonic acid (I). Coatings prepd. from the compn. displayed better adhesion to Al, steel, Cu, and galvanized tinplate than coatings prepd. from similar compns. without I.

IT 67100-97-4

(coatings, with improved adhesion to metals)

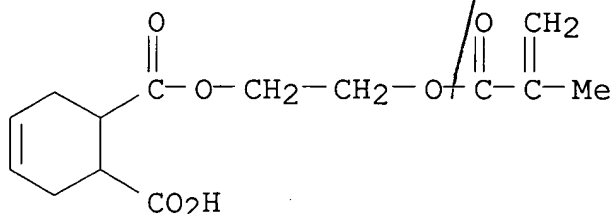
RN 67100-97-4 HCA

CN 4-Cyclohexene-1,2-dicarboxylic acid, mono[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 1,4-butanediyl bis(2-methyl-2-propenoate), butyl 2-propenoate, (chloromethyl)oxirane, ethenylphosphonic acid, 2-hydroxyethyl 2-methyl-2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

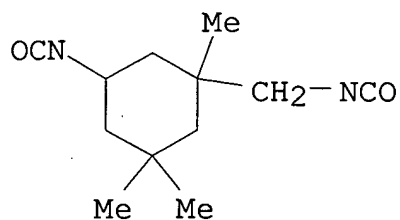
CRN 63306-05-8

CMF C14 H18 O6



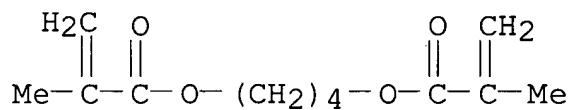
CM 2

CRN 4098-71-9
CMF C12 H18 N2 O2



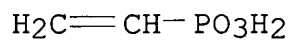
CM 3

CRN 2082-81-7
CMF C12 H18 O4



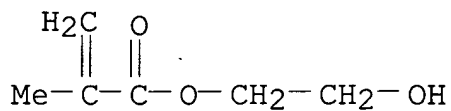
CM 4

CRN 1746-03-8
CMF C2 H5 O3 P



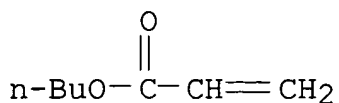
CM 5

CRN 868-77-9
CMF C6 H10 O3



CM 6

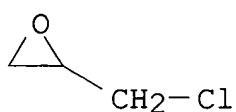
CRN 141-32-2
CMF C7 H12 O2



CM 7

CRN 106-89-8

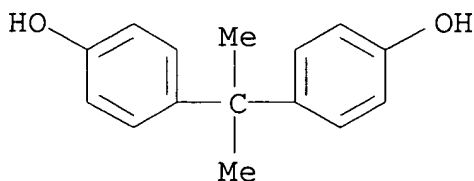
CMF C3 H5 Cl O



CM 8

CRN 80-05-7

CMF C15 H16 O2



IC C09D007-12

CC 42-3 (Coatings, Inks, and Related Products)

IT **Coating materials**

(adhesion promoters for, unsatd. phosphoric acid derivs. and phosphonic acid derivs. as)

IT 85-44-9D, polymers with adipic acid, Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, hydroxyethyl methacrylate, isophorone diisocyanate, trimellitic anhydride and phosphoric acid derivs. 106-91-2D, polymers with adipic acid, Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, hydroxyethyl methacrylate, isophorone diisocyanate, phthalic anhydride, trimellitic anhydride and phosphoric acid derivs. 124-04-9D, polymers with Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, hydroxyethyl methacrylate, isophorone diisocyanate, phthalic anhydride, trimellitic anhydride and phosphoric acid derivs. 141-32-2D, polymers with adipic acid, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, hydroxyethyl methacrylate, isophorone diisocyanate,

phthalic anhydride, trimellitic anhydride and phosphoric acid derivs. 552-30-7D, polymers with adipic acid, Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, hydroxyethyl methacrylate, isophorone diisocyanate, phthalic anhydride and phosphoric acid derivs. 868-77-9D, polymers with adipic acid, Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, isophorone isocyanate, phthalic anhydride, trimellitic anhydride and phosphoric acid derivs. 25022-72-4D, polymers with adipic acid, Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, hydroxyethyl methacrylate, isophorone diisocyanate, phthalic anhydride and trimellitic anhydride 36885-49-1D, polymers with adipic acid, Bu acrylate, C9-11 tertiary carboxylic acid glycidyl ester, glycidyl methacrylate, hydroxyethyl methacrylate, isophorone isocyanate, phthalic anhydride and trimellitic anhydride 67100-97-4 67100-98-5 67142-26-1

(coatings, with improved adhesion to metals)

L19 ANSWER 18 OF 22 HCA COPYRIGHT 2004 ACS on STN

62:89215 Original Reference No. 62:15865b-d Adherent coatings on metal parts. Herbst, Willy; Rochlitz, Fritz; Vilcsek, Herbert; Wagner, Ernst (Metallgesellschaft A.-G.). DE 1188411 19650304, 3 pp.; Addn. to Ger. 1,184,588 (CA 62, 6213c) (Unavailable). APPLICATION: DE 19600408.

AB Instead of the soln. of the polymer of poly(vinylphosphonic acid) (I) in H₂O of the principal patent (as an adhesive layer for protection against corrosion), the metal is coated with a 0.01-7% aq. soln. of a mixed polymer of I and one or more unsatd. org. compds. with polar characteristics, such as acrylic and methacrylic acids, their esters, amides and nitriles, vinyl esters, maleic acid anhydride, and crotonic acid. The aq. soln. preferably contains a C1-4 alc. The mixed polymers are economical, and since they are less sticky they are easier to manipulate than homopolymers of I. The coated products have good adhesion for lacquers. Thus, degreased steel is etched with HCl, rinsed, and wiped with a soln. of H₂O 635, iso-PrOH 365 ml., and 12.5 g. of a mixed polymer of I and methacrylic acid in the mole proportions of 0.6:1. The coated sheet is dried 10 min. at 115.degree.. Ground and surface layers of com. lacquers may then be applied to the coated product.

IT 27936-88-5, Phosphonic acid, vinyl-, polymer with acrylic acid 55972-36-6, Methacrylic acid, polymer with vinylphosphonic acid

(coating with, on steel)

RN 27936-88-5 HCA

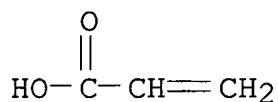
CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CRN 1746-03-8
CMF C2 H5 O3 P



CM 2

CRN 79-10-7
CMF C3 H4 O2



RN 55972-36-6 HCA
CN 2-Propenoic acid, 2-methyl-, polymer with ethenylphosphonic acid
(9CI) (CA INDEX NAME)

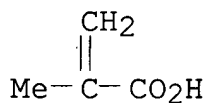
CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



CM 2

CRN 79-41-4
CMF C4 H6 O2



IC C23F
CC 20 (Nonferrous Metals and Alloys)
IT **Coating(s)**
(of iron, with mixed polymers)
IT **Coating(s)**
(of metals, with polymers of monobutyl ester of maleic acid)
IT 27936-88-5, Phosphonic acid, vinyl-, polymer with acrylic

acid 55972-36-6, Methacrylic acid, polymer with
vinylphosphonic acid
(coating with, on steel)

L19 ANSWER 19 OF 22 HCA COPYRIGHT 2004 ACS on STN

62:35394 Original Reference No. 62:6213e-g,6214a Protecting metals from corrosion. Duch, Eduard; Herbst, Willy; Rochlitz, Fritz; Scherer, Hans; Vilcsek, Herbert (Metallgesellschaft A.-G.). DE 1182926 19641203, 4 pp. (Unavailable). APPLICATION: DE 19600831.

AB The metal is treated with a 0.1-15% soln. (in H₂O and (or) iso-PrOH) of a mixt. of an alkenyl-phosphonic acid, esp. vinylphosphonic acid (I), and .gtoreq.1 of the following: poly(vinylphosphonic acid) (II), a polymer of a half-ester of I, a copolymer of I (or its half-ester) with an unsatd. org. compd., such as acrylic acid, an acrylic ester, a vinyl ester, or maleic anhydride, or a P-free polymer which contains acid groups, esp. poly(acrylic acid) or a vinyl alkyl ether-maleic anhydride copolymer. Thus, degreased auto-body sheet steel was rinsed with cold water, dipped 10 sec. in a warm (44.degree.) soln. of 27 g. I and 3 g. of a copolymer of I and acrylic acid (mole ratio 1:1) in 970 g. H₂O, and dried at 130.degree. for 4 min. When given 2 coats of an alkyd baking enamel (baked 25 min. at 145.degree.), the system had outstanding coating adhesion and corrosion resistance. In another example, pickled, scaled steel was dipped for 20 sec. in a soln. of I 42, II 18, iso-PrOH 610, and H₂O 330 g. and baked 5 min. at 130.degree.. The sheet showed no signs of rusting after 4 weeks exposure to the fumes from boiling HCl. Untreated pickled sheet rusted in 1 hr.

IT 27936-88-5, Phosphonic acid, vinyl-, polymer with acrylic acid

(coating with, for corrosion inhibition)

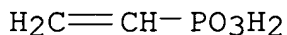
RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

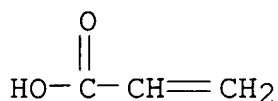
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC C23F
CC 19 (Ferrous Metals and Alloys)
IT **Coating(s)**
(with vinylphosphonic acid or poly(vinylphos-phonic acid))
IT **27936-88-5**, Phosphonic acid, vinyl-, polymer with acrylic
acid
(coating with, for corrosion inhibition)

L19 ANSWER 20 OF 22 HCA COPYRIGHT 2004 ACS on STN
62:35392 Original Reference No. 62:6213c-d Coating of metallic objects
with poly(vinylphosphonic acid) films. Herbst, Willy; Rochlitz,
Fritz; Vilcsek, Herbert; Wagner, Ernst (Metallgesellschaft A.-G.).
DE 1184588 19641231, 3 pp. (Unavailable). APPLICATION: DE
19591118.

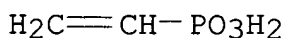
AB The coating inhibited corrosion or served as a primer for other
coatings. Steel automobile body parts were degreased, rinsed with
water, dipped in a mixt. of 565 ml. water, 435 ml. iso-PrOH, and 60
g. 35% poly(vinylphosphonic acid) in iso-PrOH, dried 5 min. at
150.degree., and then painted with lacquer. The painted parts had
good corrosion resistance.

IT **27936-88-5**, Phosphonic acid, vinyl-, polymer with acrylic
acid
(coating with, for corrosion inhibition)

RN 27936-88-5 HCA
CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA
INDEX NAME)

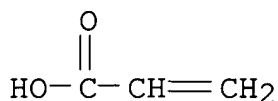
CM 1

CRN 1746-03-8
CMF C2 H5 O3 P



CM 2

CRN 79-10-7
CMF C3 H4 O2



IC C23F

CC 19 (Ferrous Metals and Alloys)

IT **Coating(s)**

(with poly(vinylphosphonic acid))

IT **27936-88-5**, Phosphonic acid, vinyl-, polymer with acrylic acid

(coating with, for corrosion inhibition)

L19 ANSWER 21 OF 22 HCA COPYRIGHT 2004 ACS on STN

61:19163 Original Reference No. 61:3308g-h,3309a Organic coatings for metallic surfaces. (Farbwerke Hoechst A.-G.). GB 954566 19640408, 5 pp.; Addn. to Brit. 935,955 (CA 60, 1935f) (Unavailable).
PRIORITY: DE 19600831.

AB The adherent, corrosion-resistant H₂O or alc. solns. of poly(vinylphosphonic acid) (I), which were previously disclosed as providing good bases for lacquers and varnishes on metallic surfaces, are improved by the addn. of a monomeric alkenylphosphonic acid, e.g. vinylphosphonic acid (II), or its copolymers with other acids, with optionally P-free polymers contg. acid groups, or certain homopolymers of an acid deriv. of II, or combinations thereof. The solns. for most purposes should contain about 1-8% monomeric alkenylphosphonic acid and polymer, the latter being in minor proportion. Suitable solvents are aliphatic C1-4 alcs., preferably iso-PrOH or its mixts. with H₂O, and a wetting agent is desirable with the H₂O. Suitable P-free polymers for these solns. are poly(acrylic acid), a copolymer of vinyl alkyl ether and maleic anhydride, and their esters, amides, and nitriles. Polymerization need not be complete. Numerous mixts. of II with various polymers are listed as giving good adherence and corrosion resistance when coated with lacquers or varnish. When pickled and rinsed steel plates were immersed for 20 sec. in a soln. contg. iso-PrOH 610, H₂O 330, phosphonic acid 42, and I 18 g., dried 5 min. at 130.degree., and hung under a hood where HCl was boiled every day and where untreated steel rusted in 1 hr., they remained free from rust for 4 weeks.

IT **27936-88-5**, Phosphonic acid, vinyl-, polymer with acrylic acid

(coatings from alkenyl phosphonic acid or their copolymers and, corrosion-preventing lacquer-holding)

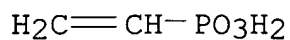
RN 27936-88-5 HCA

CN 2-Propenoic acid, polymer with ethenylphosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 1746-03-8

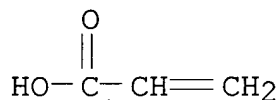
CMF C2 H5 O3 P



CM 2

CRN 79-10-7

CMF C3 H4 O2



IC C08F

CC 52 (Coatings, Inks, and Related Products)

IT **Coating(s)**

(for metals, from vinylphosphonic acid polymers contg.
alkenylphosphonic acid or their polymers, corrosion-preventing
lacquer-holding)

IT **27936-88-5**, Phosphonic acid, vinyl-, polymer with acrylic
acid

(coatings from alkenyl phosphonic acid or their copolymers and,
corrosion-preventing lacquer-holding)